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Political Writings

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CONDORCET

Political Writings

EDITED BY

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Condorcet: published works

- Esquisse d'un tableau historique des progrès de l'esprit humain*. Paris: chez Agasse, L'an III de la République, Une et Indivisible, 1795
- Œuvres complètes de Condorcet*, ed. Mme de Condorcet, A.-A. Barbier, P.-J.-G. Cabanis and D.-G. Garat. Brunswick and Paris, 1804 (21 volumes)
- Œuvres de Condorcet*, ed. A. Condorcet O'Connor and F. Arago. Paris: Firmin Didot 1847–1849 (12 volumes): this is considered as the official edition (reprinted Stuttgart-Bad Cannstadt: Friedrich Frommann Verlag (Günther Holzboog), 1968)
- Sur les élections et autres textes*, ed. O. de Bernon. Paris: Fayard, 1986
- Arithmétique politique. Textes rares ou inédits (1767–1789)*, ed. B. Bru and P. Crépel. Paris: Institut national d'études démographiques, 1994
- Tableau historique des progrès de l'esprit humain. Projets, Esquisse, Fragments et Notes (1772–1794)*, ed. under the direction of J.-P. Schandeler and P. Crépel. Paris: Institut national d'études démographiques, 2004
- Almanach anti-superstitieux et autres textes*, ed. Anne-Marie Chouillet. Saint-Étienne: CNRS éditions, Publications de l'université de Saint-Étienne, 1992
- Essai sur l'application de l'analyse à la probabilité des décisions rendues à la pluralité des voix*. Paris: Imprimerie royale, 1785 (reprinted New York: Chelsea Publishing, 1972)
- Cinq mémoires sur l'instruction publique*, ed. C. Coutel and C. Kintzler. Paris: Garnier-Flammarion, 1994.
- Réflexions sur l'esclavage des nègres et autres textes abolitionnistes*, ed. D. Williams. Paris: L'Harmattan, 2003

Correspondance inédite de Condorcet et de Turgot, 1770–1779; publiée avec des notes et une introduction d'après les autographes de la collection Minoret et les manuscrits de l'Institut, ed. C. Henry. Paris: Charavay frères, 1883 (reprinted Geneva: Slatkine, 1970)

Correspondance inédite de Condorcet et Mme Suard 1771–1791, ed. E. Badinter. Paris: Fayard, 1988

'Correspondance de Condorcet et Voltaire', in *The Complete Works of Voltaire*, ed. T. Besterman. Geneva: Institut et Musée Voltaire, Toronto: University of Toronto Press, 1968–1976, vols 85–129

Principal events in Condorcet's life

- 1743 Born Jean-Antoine-Nicolas Caritat, marquis de Condorcet on 17 September in Ribemont, Picardie.
- 1754 Enrols in primary education at the Jesuit College in Reims.
- 1758–59 Studies at the Collège de Navarre in Paris, where he gains recognition for his mathematical studies. His thesis, published in 1765 with the title, *Essai sur le calcul intégral*, would be read at the Académie royale des sciences in 1769.
- 1762 Moves to Paris to pursue his mathematical studies and becomes very close to d'Alembert.
- 1765–68 Publishes three important works on mathematics: *Sur le système du monde et calcul intégral* (along with d'Alembert), *Du problème des trois corps* and *Essais d'analyse*.
- 1769 Enters the Académie royale des sciences and is introduced by d'Alembert into the salon of Madame de Lespinasse, where he becomes acquainted with Turgot. He is named a member of the academies of Berlin, Turin, Bologna, St Petersburg and Philadelphia.
- 1770 Visits Voltaire at Ferney with d'Alembert. They stay for two weeks.
- 1773 Publishes *Éloges des académiciens de l'Académie royale des sciences, morts depuis l'an 1666 jusqu'en 1699*.
- 1774 Publishes *Lettres sur le commerce des grains*. Nominated Inspector General of the Mint by Turgot, who was appointed Minister of Finance by Louis XVI. Publishes *Lettres d'un théologien à l'auteur du Dictionnaire des trois siècles* in defence

- of the *philosophes* against the accusations by the Abbé Sabatier de Castres.
- 1775 Writes a letter to Voltaire demonstrating the necessity of defending atheist philosophers like d'Alembert and d'Holbach. Publishes a series of brochures defending Turgot's economic reforms, notably *Réflexions sur les corvées*, *Monopole et monopoleur*, *Réflexions sur la jurisprudence universelle* and *Rapport sur un projet de réformateur du cadastre*.
- 1776 Elected 'secrétaire perpétuel' de l'Académie royale des sciences. Publishes *Pensées de Pascal, édition corrigée et augmentée*, *Éloge de Pascal*, *Réflexions sur le commerce des blés* and *Fragment sur la liberté de la presse*.
- 1776–77 Contributes twenty-two articles on mathematical analysis to the *Supplément de l'Encyclopédie*.
- 1777 Disappointed at Turgot's fall, decides to devote himself exclusively to scientific and academic work.
- 1778 Publishes *Sur quelques séries infinies* and *Nouvelle expériences sur la résistance des fluides* (with d'Alembert and Bossut).
- 1779 Publishes *Observations sur le 29ème livre de 'l'Esprit des lois'* by Montesquieu.
- 1781 Publishes *Réflexions sur l'esclavage des nègres*.
- 1781–84 Publishes five *Mémoires* on the probability calculus and its application to the study of human and social events in the *Mémoires de l'Académie royale des sciences*.
- 1782 Elected to the Académie française (*Discours de réception* on 21 February). With d'Alembert, Condorcet engages in the militant defence of human rights, women's rights and the emancipation of slaves in particular. He supports the cause of American colonies and develops proposals for economic and political reform in France.
- 1783 Publishes *Dialogue entre Aristippe et Diogène*.
- 1785 Publishes *Essai sur l'application de l'analyse à la probabilité des décisions rendues à la pluralité des voix*.
- 1785–89 Edits *Œuvres complètes de Voltaire* with Beaumarchais; publishes *Vie de Voltaire*.
- 1786 Marries Marie-Louise-Sophie de Grouchy (1764–1822), who later translates Adam Smith's *Theory of Moral Sentiments* (with an appendix of her own *Letters on Sympathy*) and

- becomes very influential both in his life and the political and intellectual life of France. After their marriage, she starts a salon that would be visited by several illustrious foreign and local political figures, including Paine, Jefferson, Morellet, Cabanis, Beccaria, Adam Smith, Olympe de Gouges and Madame de Staël. Later, Condorcet and Grouchy would host in their home the Cercle Social, a women's rights association. Publishes *Traité de calcul intégral*, *Vie de Turgot* and *De l'influence de la révolution d'Amérique sur l'Europe*.
- 1788 Founds the Société des Amis des Noirs with Brissot, Clavière, Mirabeau, La Fayette, Consier, Volney and Pétion. Publishes *Lettres d'un bourgeois de New-Haven à un citoyen de Virginie, sur l'inutilité de partager le pouvoir législatif entre plusieurs corps*, *Lettres d'un citoyen des États-Unis à un Français, sur les affaires présentes de la France* and *Essai sur la constitution et les fonctions des assemblées provinciales*.
- 1789 Announcement of the convocation of the Estates-General; Condorcet aborts his attempt to be elected and becomes fully involved in the Revolution. The Third Estate refuses the king's order to the Estates-General to deliberate in separate orders. On 27 June, the king orders the clergy and nobility to join the Third Estate. Condorcet is involved with several salons, notably that of l'hôtel de la Rochefoucauld and the club de Valois. He is close to liberals like La Fayette, Liancourt, Sièyes.
- Along with La Fayette, Mirabeau, Suard, Jaucourt, du Pont de Nemours, Condorcet contributes to the foundation of the Société des Amis de la paix, which lasts only few weeks because of the defection of liberal members La Fayette and Mirabeau.
- Publishes *Réflexions sur les pouvoirs et instructions à donner par les provinces à leurs députés aux États généraux*, *Sur la forme des élections*, *Sur la nécessité de faire ratifier la constitution par les citoyens*, *Réflexions sur ce qui a été fait et sur ce qui reste à faire*, *Au corps électoral contre l'esclavage des noirs*, *Déclaration des droits*, *Idées sur le despotisme*, *Adresse à l'Assemblée nationale, sur les conditions d'éligibilité* and *Éloge de M. Turgot*.
- 1790 Founds the 'Société de 1789' with Sièyes and edits its *Journal*. Contributes to the *Bibliothèque de l'homme public* (1790–92), the *Chronique de Paris* (1792–93) and the *Journal d'instruction sociale*

(1793). Meanwhile, his attempt at reconciling radicals and moderates fails. Publishes *Dissertation philosophique et politique sur cette question: 's'il est utile aux hommes d'être trompés?', Sur le mot 'pamphlétaire', Opinion sur les émigrants* and *Sur l'admission des femmes au droit de cité*.

1791 Issues a proclamation calling for vigilance against the court and criticising the constitution. Condorcet's politics become more radical and he enrolls in the Club des Jacobins. He strongly disapproves of the repression of Champ-de-Mars. With the king's attempted flight in June he moves sharply to the left, alienating many friends and allies by declaring support for the republic and rejecting the idea that a constitutional monarchy is possible. In September he is elected a deputy of the National Assembly (the 'société patriotique' campaign for him). Publishes *De la République, ou Un roi est-il nécessaire à la conservation de la liberté?*, *Discours sur les conventions nationales* and the first *Mémoire sur l'instruction publique*.

1792 War is declared (spring); Condorcet supports Brissot's position on intervention and submits a 'rapport et projet de décret sur l'organisation générale de l'instruction publique' to the Assembly. He and Brissot are criticised by Robespierre at the Club des Jacobins. He becomes a member of the executive committee known as the 'commission des Vingt et Un' and gives his support to the sans-culottes and the new Minister of Justice Danton, and drafts the memorandum which leads to the king's suspension and the summoning of the National Convention.

Condorcet remains silent in the face of the September massacres (1,200 trapped prisoners – half the prison population of Paris – were butchered in a wave of uncontrolled mob violence). The Convention puts the king on trial and hands down the death penalty, against Condorcet's recommendation of a severe penalty short of death. After the fall of the monarchy, he is elected to the National Convention and becomes president of the Comité de Constitution, charged with writing a new constitution. Members of the Comité include Brissot (who is replaced by Barbaroux) and Pétion, Vergniaud, Gensonné, Barrière, Danton, Sieyès, whose majority is Girondin. The Comité works from September 1792 to February 1793.

Publishes *Cinq mémoires sur l'instruction publique* (1791–92), *Discours sur les finances*, *Sur la liberté de la circulation des subsistances*, *La République française aux hommes libres*, *Sur la nécessité de l'union entre les citoyens* and *De la nature des pouvoirs politiques dans une nation libre*.

- 1793 Reads the 'Plan of Constitution' at the National Assembly on 15/16 February. With the excuse of the contingency of war, the Plan is not discussed. The Jacobins, accusing the Plan of promoting federation, form their own parallel committee with Robespierre and Saint-Just, with the goal of drafting an anti-Girondin constitution.

Condorcet's Plan is rejected in April, and in June the Assembly votes on a constitution written by Hérault de Séchelle, the chief of the new committee nominated by the Comité de salut public. Condorcet writes an *Avis aux Français sur la nouvelle Constitution*, which angers the Assembly. Publishes *Sur le sens du mot révolutionnaire* and *Sur les élections*. On 8 July, he is denounced and his arrest is called for. He finds asylum in rue Servandoni, in the home of Madame Vernet, where he writes a *Fragment de justification*, *Conseils à sa fille* and starts writing the *Tableau historique des progrès de l'esprit humain*, which by October he narrows to a Prospectus, subsequently known as the *Esquisse*.

While in hiding, Condorcet also writes a 'Lettre à la Convention' in which he accuses Robespierre of dictatorship. On 2 October he is condemned to death and asks his wife to divorce him to protect their family assets for their daughter.

- 1794 Leaves his refuge on 25 March and is arrested two days later at Clamart. On 28 March Condorcet is found dead in the prison of Bourg-de-l'Égalité.
- 1795 On 2 April (13th Germinal) the Convention finances and orders the publication of 3,000 copies of the *Esquisse*, which are presented as 'un livre classique offert à vos écoles républicaines par un philosophe infortuné'.

Notes on the texts

There are, in fact, four different versions of the text here translated as ‘The Sketch’. The first was composed by Condorcet, while in hiding at Madame Vernet’s, between July and October 1795, under the title *Prospectus d’un tableau historique des progrès de l’esprit humain*. This is a manuscript in the Bibliothèque de l’Institut de France in Paris. Three thousand copies of the second were published by order of the Convention thermidorienne at its own expense in the Year III (1795). The third was published in 1804 in the first collected edition of Condorcet’s works edited by Mme de Condorcet, A-A. Barbier, P-J-G. Cabanis and D-J. Garat, and the fourth in the still standard edition edited by A. Condorcet O’Connor and F. Arago in 1847–1849, with the assistance of Condorcet’s daughter Eliza. The present translation follows this last version, which claims to have re-established the text ‘according to the original manuscript as drawn up by Condorcet’ [*de la main de Condorcet*] (O.C. VI: 10) – which would appear to be the first version indicated above. For discussion of these textual issues, see Condorcet 2004: 229–32 and the General Introduction. The translation presented here is a lightly amended version of that by June Barraclough in the edition introduced by Stuart Hampshire and published in London by Weidenfeld and Nicolson in the ‘Library of Ideas’ in 1955.

Chapters 2, 3 and 7 were translated and annotated by Iain McLean and Fiona Hewitt as published in their jointly edited book, *Condorcet: Foundations of Social Choice and Political Theory* (Aldershot: Edward Elgar, 1994). Chapter 2 was translated from a microfilm copy supplied by the Bibliothèque nationale, Paris, and the original texts of Chapter 3 and

7 are in O.C. X: 121–30 and O.C. I: 611–25. The translations have been lightly amended and include the translator’s notes.

Chapters 4, 5 and 6 were translated and annotated by David Williams. The original texts are in O.C. IX: 147–73, Condorcet 2004: 548–58 and O.C. XII: 615–24. The translations have been lightly amended and include the translator’s notes.

Editors' introduction

'Long since convinced that the human race is infinitely perfectible, and that this process, a necessary consequence of the present state of knowledge and societies, can only be arrested by global physical setbacks, I viewed the task of hastening this progress as one of the most precious occupations, one of the first duties of one who has fortified his reason by study and reflection' (O.C. I: 574).¹ These words were written in July 1793 by the marquis de Condorcet while in hiding under sentence of death from the Jacobin Terror, separated from his wife and small daughter, and engaged in preparing a grand work entitled *Tableau historique des progrès de l'esprit humain*, of which he intended the *Esquisse*, meaning 'sketch', here presented in translation, as a 'prospectus'. Of the projected work there are only fragments and notes (such as the definitions of 'liberty' and 'revolutionary' included here), for within months he was found dead in a country prison at the age of fifty.

Denounced by Robespierre as 'a timid conspirator, viewed with contempt by all parties, ceaselessly working to obscure the light of philosophy with the perfidious hodgepodge of his mercenary rhapsodies',² he was the last of the great French Enlightenment *philosophes*: at once academician, encyclopedist and revolutionary. He was a mathematician and one of the leading statisticians of his day, an economist, a philosopher and

¹ O.C. in the references that follow refers to the still standard edition of Condorcet's collected works: *Œuvres de Condorcet*, ed. Arthur Condorcet O'Connor and François Arago. Paris: Firmin Didot 1847–1848 (12 volumes) (reprinted Stuttgart-Bad Cannstatt: Friedrich Frommann Verlag (Günther Holzboog), 1968).

² *Robespierre: Textes choisis*, ed. Jean Poperen. Paris: Éditions Sociales, 1974, vol. 3, p. 172, cited in Condorcet 2004: 72 fn.

a politician. He made profound and lasting contributions to the analysis of voting and the paradoxes of social choice and thereby to understanding deep and still unsolved problems for the practice of democracy – how to ascertain ‘the will of the people’ – contributions that are still debated and built upon today. As an economist he was both a critic of the stifling, corrupt and arbitrary economic regulations of his time and a proponent of detailed reforms for the constitution of a competitive economic order. As a philosopher he held distinctive and still controversial views about the probabilistic character of human knowledge,³ about the relations between reason and moral sentiments, and about both the conflict and connectedness of values. He identified the distinctive features of modern despotism before Alexis de Tocqueville and the contrast between ancient and modern liberty before Benjamin Constant. As a politician he was for four years an increasingly central figure in the French Revolution; and his constitutional ideas about how to resolve and contain political conflict and organise representative democracy are of continuing relevance today, while his educational ideas about how to secure universal instruction and thus public enlightenment had a far-reaching influence on the French educational system.

Condorcet was a thoroughly secular and relentlessly anti-clerical advocate of the cause of liberty, equality and ‘the rights of man’ – which he understood to imply equal rights for all human beings. He campaigned tirelessly against both old and new forms of tyranny. At first a monarchist, then a republican, he evolved, even as the revolution turned into an orgy of despotism and violence, into a resolute democrat. His humanitarian activism expressed his principled opposition to slavery, imperialism and cruel punishments, including the death penalty. Condorcet’s ideas about progress and perfectibility have from the beginning been dismissed, from both the right and the left, as ‘utopian’ and ‘naïve’, and he has been described as radical in theory but timid in practice. Yet his constant concern was not to formulate impeccably correct idealised schemes, but rather to discover how his principles could contribute to designing political frameworks and guiding social actions, thereby hastening the human progress in whose necessity he continued, even in his last dark days, to believe.

³ He published an edition of Pascal’s *Pensées* (O.C. III: 635–62) to ‘Voltaire’s great satisfaction’ (635), criticising Pascal’s radical scepticism and endorsing Voltaire’s epistemological modesty. There are, he wrote, ‘sure means of arriving at very great probability in some cases and, in very many, of estimating the degree of that probability’ (641).

Life

Condorcet's uncompromising hostility to religion may well have flowed from his early childhood experiences. He was an only child, his father, a cavalry captain with a noble title, having died when he was three. His devout, over-protective, twice-widowed mother dedicated him to the Virgin, making him wear a skirt and pinafore until the age of eight. His first teacher was a Jesuit and he was then sent to a Jesuit school in Reims.⁴ He later composed, but never published, his little known 'Anti-Superstitious Almanack', replacing the traditional saints' days with commemorations of opponents and victims of intolerance and accounts of 'the assassinations, massacres, seditions, wars, tortures, poisonings, evils and scandals' that had formed the entire history of the Catholic clergy (O.C. I: 256).

From Reims he went on to the Collège de Navarre in Paris, where his exceptional talent for mathematics became apparent and he decided to become a professional mathematician, publishing studies of the integral calculus and 'the three body problem'. These were acclaimed as outstanding by leading mathematicians, among them Jean le Rond d'Alembert, who became his patron, ally and promoter, facilitating his election to the Academy of Sciences, of which he became perpetual secretary, and inducing him to contribute to preparing the *Encyclopédie*. He became a distinguished academician, was admitted to the French Academy and various international academies, and produced a stream of mathematical papers with a practical bearing, the most important being on the calculus of probabilities, with striking implications for jurisprudence and 'political arithmetic'. He wrote a series of lives of the academy's scientists that won him a literary reputation and were lavishly praised by Voltaire. Nearly fifty years his senior, Voltaire recognised in Condorcet a love of liberty and justice equal to his own and remarked that he was the equal of Pascal in many respects and much Pascal's superior in some. Together with d'Alembert, Condorcet visited Voltaire at Ferney, actively supported his campaigns against judicial arbitrariness and later wrote remarkable short biographies of both Voltaire and Turgot.

D'Alembert also introduced him to his companion Julie de Lespinasse, at whose brilliant salon he encountered the various friends and allies of

⁴ 'Humiliation and opprobrium,' he later wrote, 'are the natural state of Christians.' He later recalled that the teachers 'being celibate and proclaiming their avoidance of women' were corrupters of their pupils and that this happened 'very often and always among ecclesiastical teachers and monks' (Badinter and Badinter 1988: 19–20).

the philosophes. Observing his combination of awkward shyness and driving passion, they called him a 'snow-capped volcano' and an 'enraged sheep' (O.C. I: clxii). He was thenceforth in contact with the leading Enlightenment figures of the time, both at home and abroad, including Adam Smith, Cesare Beccaria and David Hume, and later Tom Paine, as well as Thomas Jefferson and Benjamin Franklin. He admired the American 1776 Declaration of Independence, describing it as 'a restoration of humanity's long-lost title-deeds' (O.C. VIII: 11). He closely followed and wrote a string of pamphlets about the progress of liberty in America and on the worldwide impact of the American Revolution, one of which led to his being named 'Honorary Citizen of New Haven, Connecticut'.

In 1786, he married the remarkable, independent-minded Sophie de Grouchy. Twenty years younger than he, a philosophe herself, she translated Adam Smith's *Theory of Moral Sentiments*, appending her own *Letters on Sympathy* (de Grouchy 2008), differing on significant points with Smith. She shared ideas with her husband, whom she clearly influenced, in what became a deeply loving relationship. Her salon was among the most famous of the time and became an important centre of republican activity. The two of them, along with Thomas Paine and two others, were to found the first Republican club in July 1791, publishing a new journal, *Le Républicain*.

His other great mentor, apart from d'Alembert, was Anne-Robert-Jacques Turgot – the very model of the enlightened administrator, appointed Minister of Finance by Louis XVI in 1774. For Turgot, humanity's progress was inevitable, but in the here and now fiscal reforms were urgently needed: free trade across the French provinces, the end of compulsory unpaid labour by the peasants on the roads, a single land tax for all property-holders, including the clergy, a system of elected local assemblies, the dismantling of feudal privileges and the promotion of commerce. Inevitably, all this threatened too many vested interests and Turgot was dismissed within two years, to Condorcet's despair. He wrote to Voltaire of the 'fine dream' that was over: 'I shall return to geometry and philosophy. It leaves one cold to work only for fame, after imagining for a while one was working for the public good' (O.C. I: 115). Turgot had appointed him Inspector General of the Mint, a post he retained until 1791. In this capacity, he made a series of technical contributions to practical problems, such as the building of canals⁵ and the measurement

⁵ 'The navigational and engineering challenges were formidable, and Condorcet's research was instrumental in demonstrating the flaws in existing proposals for the tunnels for

of tonnage in ships, and he worked out the first coherent account of insurance. Turgot had a decisive influence on Condorcet's development. Condorcet not only shared Turgot's vision of progress, his belief in free trade and freedom of contract, and his idea of the need to institute locally elected assemblies, but he was also at one with Turgot's rejection of the utilitarians' narrow view of self-interested motivation, with his concern to protect the poor from market failures and, above all, with his commitment to practical political engagement.

In the late 1780s Condorcet was writing pamphlets, proposing constitutional and other reforms and declarations of rights, as well as formulating the thoughts on despotism included here. In addition, he co-founded a society of radical aristocrats and an anti-slavery society. Though he failed to be elected to the Estates-General in 1789, he was elected to the municipality of Paris and was then chosen by the Parisians to represent them in the Legislative Assembly, the new national government, in which he rose quickly to become one of its secretaries, then its president, and played a crucial role in devising the representative system of the commune of Paris. He drafted most of its addresses, including a comprehensive scheme to re-organise state education, which was to lay the foundation for France's educational system. The king's attempted flight in June 1791 was a key personal moment: he moved sharply to the left, alienating many friends and allies by declaring for the republic. He then lent his support to the sans-culottes and the installation of Danton as Minister of Justice, and drafted the memorandum which led to the king's suspension and the summoning of the National Convention. He foresaw the danger of a civil and religious war, soon to be increased by a foreign war, and judged that nothing could arrest the vengeance of the people. In vain, he tried to resist the revolution's violent and despotic course. Yet he remained silent in the face of the September massacres in 1792, when some 1,200 trapped prisoners – half the prison population of Paris – were butchered in a wave of uncontrolled mob violence. (His essay on the meaning of the word 'revolutionary', included here, represents his attempt to grapple with the question of justifying exceptional measures in exceptional circumstances.) He even sympathised with 'the people' rather than the victims (who included priests and aristocrats, but also women and young boys), writing of the 'unhappy and terrible situation' in which

the new canals, whose design would have made it impossible for boats to pass through' (Williams 2004: 21).

'a naturally good and generous people is constrained to engage in such acts of vengeance', though describing them later as having 'defiled the Revolution'.⁶ The Convention put the king on trial, despite Condorcet's objection to its assuming a judicial function, and it pronounced the death penalty, against his opposition (though he did vote for a severe penalty short of death). He became the head and most influential member of the Convention's constitutional committee, but the carefully elaborated constitution (the first European document of a representative democracy) that he largely drafted was ruthlessly buried in favour of another, hastily drafted by the Jacobins, who accused Condorcet's of federalising France. His severe criticism of this alternative, his denunciation of the purge of the Girondists and his protests against the ever more violent conduct of the Montagnards could have only one outcome: a charge of conspiracy and the Convention's order for his arrest.

He found asylum in the home of Madame Vernet, under whose protection he resumed his life-long project of writing a large-scale *Tableau*; eventually, however, he realised that the *Esquisse* was all he would be able to complete. In addition to all this, he also found time to write a primer to teach schoolchildren how to count, to send secret memos on the conduct of the war against the Coalition to the Committee of Public Safety and even to work on some problems in higher mathematics. He corresponded in code with Sophie, who visited him secretly and who, in order to survive and protect their daughter Eliza's property, was compelled to divorce him. The tragic letter and testament he wrote to Eliza is included here. After nine months, he managed to escape his hostess's watchful eye and, thinking her in danger, sought refuge, unsuccessfully, with the Suards, one-time close friends in the countryside. Dressed as a peasant under an assumed name, he was arrested and found dead next day in his prison cell.

The *Esquisse*

We do not know whether the title of this text, sometimes described as 'the testament of the Enlightenment', was chosen by Condorcet himself,

⁶ Badinter and Badinter 1988: 487, 490. He also wrote of 'drawing a veil over these events' (486). The Badinters' biography examines this story (484–91), offering a political answer to the question of why Condorcet remained silent, the gist of which is that to have denounced the massacre would have exposed him to the charge of treason.

by Sophie or by the publishers who printed it a year after his death. Eliza noted, fifty years later, in the still standard collected edition of her father's works, that he had always called it a 'prospectus', since it was only to be 'the preface of an immense work'. She retained the title of *Esquisse* because it had been rendered 'sacred by the celebrity of this work' (O.C. VI: 281). Readers should bear this in mind, alongside the definition of 'esquisse' in the *Encyclopédie* as 'a kind of drawing without shading and unfinished'. Composed in the shadow of the guillotine with scarcely any books to hand, it is no cool survey of world history. If read as a completed work, the 'sketch' could be criticised, not unjustly, as a caricature of Enlightenment rationalism, with its zigzag narrative of light eventually overcoming the forces of darkness and its Manichean theme of the deceivers and the duped, its 'polemical psychology'⁷ of conscious conspiracies and corresponding blindness to the social structuring of life and its faith that science would promote ever greater virtue and happiness. It should rather be read as a distilled summation of the lessons Condorcet drew from his reflections on mankind's past at what seemed, and was, a decisive world-historical moment. As hope for his own survival ebbed away, the question was: what grounds for hope could such reflection offer for future generations?

Consider first the very idea of progress. It was the young Turgot who, while still an *abbé*, had launched the Enlightenment idea of progress at a lecture at the Sorbonne in 1750. Manners, he declared,

are gradually softened, the human mind is enlightened, separate nations draw nearer to each other, commerce and policy connect at last every part of the globe, and the total mass of the human race, by alternating between calm and agitation, good and bad, marches always, however slowly, towards greater perfection.⁸

Condorcet accepted this picture, but he radicalised it. He had no time for Turgot's surviving quasi-religious reasoning (no Providence! no theodicy!), or for Turgot's granting a positive, civilising role to medieval Christianity. And whereas Turgot saw enlightenment as located in individual geniuses scattered uniformly across history and diffused from above by benevolent monarchies, Condorcet stressed the role of public

⁷ The phrase is Peter Gay's (Gay 1969, 2:122).

⁸ Turgot 1913–23, 1:215–16.

education in bringing about mass enlightenment. In short, Condorcet secularised and democratised the idea of progress.⁹

We should also note the French titles that both authors used: for both of them *progrès* was *les progrès*, in the plural. Like Turgot, Condorcet intended progress in different areas of human activity: specifically, pure or theoretical science, applied science or technology, artistic expression and moral conduct. These proceed unevenly and with differing dynamics. 'We pass,' he wrote, 'by imperceptible steps from the brute to the savage and from the savage to Euler and to Newton' (O.C. VI: 346). Concerning scientific progress, there are really two stories that unfold within the span of human history, which Condorcet saw as divided into nine 'epochs' and a tenth yet to come. The first story, beginning with the tribal peoples of the first epoch is the story of applied knowledge, of the practical or mechanical arts developing and perfecting the means of satisfying needs, from making weapons and cooking to navigation and medicine, the achievement of artisans constantly developing across history, driven by the human motive of invariably seeking what is useful and pleasurable. The second story, which begins with the Greeks in the fourth epoch and culminates in the ninth, as prelude to its indefinite prolongation in the tenth, is the story of speculative knowledge. Thus, the 'scholars and scientists of Greece' developed ideas that led to 'the bold systems of Descartes and the philosophy of Newton'. The two stories intersected as this scientific progress, driven by insatiable human curiosity, began, once it took off, to drive technological change forwards. Thenceforth, cumulative theoretical discoveries would beget ever more practical inventions, and vice versa.

The eighth epoch saw the one key technological innovation that heralded irreversible mass enlightenment: the invention of printing. This ended forever the monopoly of esoteric knowledge by the sacerdotal class, enabling the unlimitable spread of scientific truths and ensuring that they would be tested, refined and rendered accessible to non-experts. And as they become common property, these truths would, in the forthcoming tenth epoch, also expand in scope to embrace the human sciences and thus the whole of social and political life, and serve as the foundation for 'the social art'. They would, Condorcet believed, be based on quantifiable evidence and on a mathematical theory capable of ever greater precision, applying 'the calculus of combinations and probabilities', expressed in

⁹ See Manuel 1962: 62–81.

a universal language. The social art would then lead, first at home and eventually across the globe, to 'the perfection of laws and public institutions' and the 'reconciliation, the identification of the interests of each with the interests of all'.

Condorcet says precious little here about the third domain of human activity indicated above, namely, artistic expression, and what he does say may seem strange to us today. With regard to 'the fine arts' he distinguishes between what belongs 'properly to the progress of the art itself' and what is 'due only to the talent of the artist'. Rejecting the 'prejudice' that the Ancients surpassed the moderns – that 'the most sublime and moving beauty has already been apprehended' – his idea is that the role of individual talent will matter less and less and the most modern works will be those that 'really deserve preference', because they are the most effective in conveying 'the simpler, more striking, more accessible aspects of beauty'. These are the conventional views of a man of the Augustan Age, for whom the fine arts – painting, poetry and music – were there to please according to rules on the way to being mastered and perfected.

What, then, of moral progress? Condorcet was an egalitarian and, as the tenth epoch makes clear, the equality he cared about was an equality of rights that could be brought about through willed institutional and political change: the 'social art'. The inequalities to be progressively diminished are those that are social, not 'natural and necessary': that is, inequalities of wealth, social status and education. Some of the implications he drew from this position went well beyond the conventional thinking of the times. He was, you might say, the first social democrat. He advocated equal rights for women, civil marriage and divorce, special homes and hospitals for unmarried mothers, birth control, free secular education for all (male and female) and schemes that anticipated social security (with publicly funded provision for old age, widows' pensions and child support) and a permanent League of Nations. His vision was indeed global, though, it is true, he never doubted that 'the sweet blessings of civilisation' were European and speculated that the colonists in America would 'either civilise or bring about the disappearance even without conquest of the savage nations' still living there.

Attaining 'greater equality in the conditions of the social pact' would in turn bring about a moral transformation of everyday life: it would facilitate 'listening to the deliverances of reason and conscience' upon conduct and 'exercising those gentle sentiments which identify our happiness with those of others'. Under such conditions there would flourish

that 'fine and delicate sensibility which nature has implanted in the hearts of all and whose flowering waits only upon the favourable influence of enlightenment and freedom'. Here, as in his letter to Eliza, we can hear echoes of Adam Smith's *Theory of Moral Sentiments*, but also the influence of Sophie, who, in her nuanced and partially critical development of Smith's ideas, stressed the ways in which humans' innate sympathy could be nurtured by education and social institutions.

These different *progrès*, or forms of progress, were for Condorcet inseparable, for, as he wrote, 'nature links together truth, happiness and virtue by an unbreakable chain'. But what did he mean by this? For Sir Isaiah Berlin, this phrase epitomises the 'central dogma of the Enlightenment', albeit penned by 'one of the best men who ever lived'¹⁰ – a denial, in Berlin's view, of value pluralism, expressing the illusory and ominous doctrine that 'there is a single harmony of truths into which everything, if it is genuine, in the end must fit'.¹¹

One way of interpreting Condorcet's statement is as the claim that knowing the truth invariably leads to greater happiness and virtue – obviously a disputable claim. On Berlin's interpretation, Condorcet is advancing a complex meta-ethical view that can be summarised in four theses. First, moral judgements concern matters such as what is good or evil, what habits of action are virtues or vices and what does or does not conduce to happiness. Second, such judgements can be correct or mistaken and are, like scientific judgements, a matter of knowing what is objectively the case. Third, moral judgements must cohere with scientific judgements. Consequently, and this is the fourth and final thesis, there can be experts who have greater moral knowledge. Such a view, Berlin argued, justifies 'unlimited despotism on the part of an elite which robs the majority of its essential liberties'.¹² Is this charge convincing?

It is true that Condorcet's view is an ancient one – clearly defended, for instance, throughout Plato's Dialogues. He was what is these days called a 'moral realist', who assumed that there are objective moral truths and he further believed that, as people become more enlightened, the probability will increase that what most think is the right thing to do will indeed be the right thing to do (an assumption basic for his famed 'jury theorem'¹³). Thus, he asks in the *Esquisse*:

¹⁰ Berlin 1969: 167–8.

¹¹ Berlin 1998: 53–60.

¹² *Ibid.*

¹³ The jury theorem states that if a group aims to reach a decision by majority vote, if one of two outcomes is correct, and each voter is more likely than not to vote correctly, then

Is not a mistaken sense of interest the most common cause of actions contrary to the general welfare? Is not the violence of our passions often the result of habits that we have adopted through miscalculation, or of our ignorance how to restrain them, tame them, deflect them, rule them?

Furthermore, his belief in social mathematics – in the application of statistics in collective decision-making – was based upon his assumption, stated at the very outset of the *Esquisse*, of commonalities in human sensations and sentiments and hence ‘ties of interest and duty’. Thus, he wrote that since ‘all men who inhabit the same country have more or less the same needs, and since they generally have the same tastes and the same ideas of utility, what has *value* for one generally has it for all’ (O.C. I: 558).

And yet he was aware, to an extent that few of his contemporaries were, of the diversity of human needs and interests arising out of diverse social circumstances and thus of the reality and depth of political and moral conflicts. This led to his concern with the urgency of finding constitutional ways of containing and institutionalising conflict, through procedural mechanisms that would encourage deliberation, delay and the possibility of reversibility: his proposed constitution included a headless law-making body, whose deliberations were to be carefully organised to avoid hastiness and the violation of rights. Furthermore (and this is where his originality lay), his conception of knowledge was probabilistic, modelled not on geometric certainty but on reliable statistics. Knowledge claimed by a few experts must therefore be suspect; only when attained through social processes of enquiry across the whole of a community under conditions of freedom and equality could knowledge be relied upon (a view foreshadowing those of John Dewey and Jürgen Habermas). Far from favouring the idea of an all-knowing elite of moral experts imposing their superior understanding of the true interests of others on the unenlightened, his most central principle was implacably to oppose it. As for the values he prized, Condorcet did, indeed, see them as connected, in the ways suggested above, but he was also concerned with their conflict, as Emma Rothschild has perfectly expressed the point with:

the probability of the collective decision being correct approaches certainty as either the group's size or the competence of the voters increases. Condorcet's idea is closely akin to Rousseau's notion of the general will: for discussions of this question, see Grofman and Feld 1988 and Estlund *et al.* 1989.

the diversity of individual opinions; with the shortcomings of proto-utilitarian theories of happiness; with individual rights and individual independence; and with trying to show that the imposition of universal and eternal principles is the most sinister of despotisms. (Rothschild 2001: 196)

The role of education in Condorcet's social philosophy of progress and equality may be the best place to seek his own answer to Berlin's critique. Condorcet thought that attaining mass enlightenment through education was the most important task to be pursued by the republic, along with freedom of the press and the growth and diffusion of scientific knowledge, yet with no ambition to combat wrongs by the instilling of truths. As he wrote in one of his five *mémoires* entitled *Sur l'instruction publique*: 'The goal of education is not to make people admire an already existing legislation, but to render them capable of appreciating and correcting it' (O.C. VII: 212). Educational progress, he thought, would be an 'indefinite' work of 'correction' and must extend across a lifetime:

It is not ... enough that instruction forms men; it must conserve and perfect those it has formed, enlighten them, preserve them from error, prevent them from falling back into ignorance. The gate of the temple of truth must be open to all ages, and the wisdom of parents must prepare their children's souls to listen to its oracles, so that they always know how to recognise its voice and are not, for the rest of their lives, exposed to confusing it with the sophisms of imposture. Society must therefore prepare easy and simple means of self-instruction, for all those whose circumstances prevent them from obtaining them for themselves, and whose primary education has not enabled them to discern and seek the truths that will be useful for them to know. (O.C. VII: 188)

A democratic theory of liberty

Emancipation

The anti-slavery movement and the movement for the enfranchisement of women are the issues that best illustrate Condorcet's idea of 'indefinite progress' as an answer to despotism, his most persistent concern. Among French philosophers, anti-slave sentiments acquired momentum along with the spreading of knowledge of the emancipation of the American colonies and the prohibition of slavery in New England and Pennsylvania. Certainly, Benjamin Franklin's trip to Paris in 1778 and

Thomas Jefferson's clause on the abolition of the traffic of slaves in the Declaration of Independence contributed to alerting the French intellectuals to the cause of emancipation. In this context Condorcet wrote *Réflexions sur l'esclavage des nègres* (1781), his 'best known statement against slavery', although not the only one.¹⁴ Signed with the ironic *nom de plume* of 'pastor Jacob Schwartz', this essay may be seen as a 'note' in preparation for the *Esquisse*. The *Réflexions* were received with both 'strong supports' and 'violent reactions'; they inspired the Société des Amis des Noirs (1788), whose manifesto Condorcet wrote the year before being elected as its chairman.¹⁵ In this collection we include this manifesto, which synthesises the main arguments developed in the *Réflexions*.

Condorcet directed both principled and prudential arguments against slavery. He based the former on the idea of natural liberty and the postulates of the unity of the human race and of the equality of all human beings; he based the latter on the idea that free labour would increase economic efficiency.¹⁶

Condorcet reiterated Rousseau's theory that the natural sentiment of liberty was to be found in all human hearts and that no rational argument could be made in favour of slavery, not even a person's voluntary decision. 'There is no-one who does not feel the loss of this [natural] liberty and is not horrified by this kind of servitude.'¹⁷ Based on this premise, Condorcet defined slavery as a 'crime' and countered opinions based on authority and tradition with an argument that John Stuart Mill would reiterate in *On Liberty* (1859): moral progress lay in the space between the inner sense of what is just and the general opinion; to be able, then, to resist the latter when it contradicts the former is a sign that progress is feasible, although unpopular and difficult. On this basis Condorcet opposed justificatory arguments that tend to make moral principles relative to historical circumstances. Thus, 'the fact that Cicero in ancient Rome treated his slaves humanely' does not mean that 'we should detest the barbarity of the Romans towards their slaves any the less' (O.C. VII:

¹⁴ Richard H. Popkin (1984) 'Condorcet, Abolitionist', in Rosenfeld 1984: 36.

¹⁵ On the role played by Condorcet in the *Société* see Cahen 1906: 481–511. On the impact of Condorcet's essay on France's labour legislation see Julien 1955: 18.

¹⁶ In an unpublished note of 1789, Condorcet ironised against the supporters of the inferiority of black people: 'all *white* men are born free and equal in rights; a method is to be found in order to determine the degree of whiteness that is necessary!'; cited in Alengry 1973: 402.

¹⁷ Condorcet, *Réflexions sur l'esclavage des nègres* (O.C. VII: 122).

134). The conclusions of Condorcet's thoughts on slavery were twofold. On the one hand, he surmised that humanity would gradually and globally evolve towards a complete acceptance of the principles of the unity and equality of the human species. On the other hand, he thought that this moral progress would itself render these principles into workable criteria for making and judging laws. To 'reduce a man to slavery, to buy him, to sell him, to keep him in servitude, all these are real crimes', he wrote and to 'tolerate this law while having the power of destroying it is also a crime' (O.C. VII: 69, 77).

Yet while his principles of justice demanded the immediate abolition of slavery, Condorcet's practical suggestions were more moderate and prudent. Like his friend Jefferson, he proposed the immediate abolition of the slave trade, not of slavery. Surmising that emancipation could provoke violent resistance and be viewed as 'forced consent' (*consentement forcé*) by white people, he advanced an intermediate solution so that the masters could enjoy the service of their slaves on condition that they would enfranchise them within thirty-five years. The same tension between principles and practice is to be found in Condorcet's position on women's suffrage.

Condorcet's bold, far-reaching writings about women's rights date from his marriage to Sophie. To be sure, when Condorcet published *Sur l'admission des femmes au droit de cité* (3 July 1790), translated here, the idea of the civil and political capacity of married women was shared by some of his contemporaries, for instance, the Abbé Joseph-Emmanuel Sieyès. But no one had yet devised such radical arguments against gender inequality.¹⁸ Condorcet himself was less radical in his politics. Scholars have spoken of an 'enigma' because, despite his strong and explicit intention to put an end on the exclusion of women, his project of a Constitution of 1793 was silent on this issue and did not grant women the *droit de cité*.¹⁹

In his 1790 pamphlet that we publish here, Condorcet anticipated the main arguments of nineteenth- and twentieth-century suffragism. First, he traced women's political exclusion back to the prejudice against all functions related to the reproduction of life – in particular menstruation

¹⁸ Condorcet had first expressed his views on women's eligibility for public office in the second letter of his 1788 *Lettres d'un bourgeois de New-Haven à un citoyen de Virginie* (O.C. IX: 14–18).

¹⁹ Christine Fauré, 'La pensée probabiliste de Condorcet et le suffrage féminin', in Crépel and Gilain 1989: 349.

and pregnancy. In short, he rejected a commonplace that from Aristotle to Montaigne went unquestioned: that maternity makes women unfit for citizenship because it makes them naturally partial towards their families and unable to understand principles of justice. Furthermore, Condorcet linked reproduction to the economic production of goods and so made women's political exclusion a case of the disqualification of labour as such. Reversing a consolidated republican tradition that was in his time shared by Immanuel Kant, Condorcet deemed the idea of making wage labour a reason for political exclusion a blatant contradiction, because modern society relied heavily upon individual responsibility and a market economy. 'Women therefore fall into the same category as men who need to work for several hours a day. This may be a reason not to elect them but it cannot form the basis for a legal exclusion.'

As with slavery, Condorcet made the case of women paradigmatic of equality, justice and legal innovation rebutting arguments for the subordination of women based on authority and tradition. Anticipating the polemical style adopted by emancipationists like Mary Wollstonecraft, Harriet Taylor and J. S. Mill, Condorcet overturned the traditional claim that women did not need citizenship because they already exercised influence on men 'in secret' by declaring unchecked influence a form of arbitrariness and manipulation that perverted social and political relations: enfranchisement would thus improve men's and women's characters while improving society. Finally, as with the emancipation of slaves, he rejected the argument of public utility as an 'excuse for tyrants ... It was in the name of public utility that the Bastille was filled, that books were censored, that judicial proceedings were kept secret and that people were tortured.'

Direct and indirect despotism

Slavery and the subjection of women were despotic systems of power relations, and despotism played a seminal role in Condorcet's political thought. To Condorcet, despotism meant a radical violation of liberty because it was a denial of equality. He endorsed the classical definition of despotism as the master-slave relation ('that is to say whenever they are subjected to the arbitrary will of others'), but enriched and modified it so as to make it a tool for detecting forms of domination in modern democratic societies.

He made four theoretical innovations. First, he questioned the individualistic character of the classical definition of despotism and argued

that any discretionary power needs to rely on a class of people. 'The despotism of one exists only in the imagination', since any ruler needs the support of a certain number of acolytes; it thus implies a breach of equality. This was Condorcet's main difference from Montesquieu, for whom 'a single person directs everything by his own will and caprice',²⁰ and who thought that the absence of social hierarchy would facilitate despotism, since despotism derived from equality. Condorcet radically transformed this idea, distinguishing between tyranny and despotism: the former was a temporary usurpation of a legitimate government and a partial violation of equality, while the latter was a systematic organisation of social inequality that overturned the law and caused full domination. This interpretation made Condorcet's republicanism different from the Roman tradition and more democratic. In the fifth epoch of his *Esquisse*, he granted the Roman republic the merit of perfecting jurisprudence and making justice gentle (*douce*), but criticised its political system because of its inequality and despotic character.

The second innovation was even more striking. Condorcet introduced a seminal distinction between *de jure* and *de facto* arbitrary power, corresponding to that between *direct* and *indirect* despotism. This led him to argue that even in a country with constitutional guarantees and free elections classes of citizens can develop which wield an indirectly despotic influence on the legal system without changing the structure of government. For instance, elected officials can become 'indirectly' despotic when their representation 'is neither equal nor real' – when, we could say in modern parlance, because of a bad electoral system or corrupt behaviour representatives do not actually 'represent the nation'. Thus, whereas the House of Lords was an example of direct despotism, the House of Commons was a case of indirect despotism. Any representative democracy could become *de facto* despotic while remaining *de jure* legitimate.

The third innovation concerns the notion of indirectness. Indirectness pertained to a kind of despotism operating through 'influence', compatible with a public sphere and freedom of speech and association. Indirect despotism can develop in a democratic or free society when social classes (constituted by honours or nobility, by economic and financial power, by religious prejudices, and by ignorance) hold an unequal power to influence the law. Condorcet listed modern classes such as financiers and bankers along with traditional classes such as clergy and the military and,

²⁰ Montesquieu 1989: 2.1.

along with Rousseau, considered interest groups detrimental to political equality and liberty: 'It is easier to free a nation from direct despotism than from indirect despotism.' Condorcet's definition of despotism thus transcended the simple violation of procedures (this would be tyranny) and referred to structural forms of domination for which no individual could be held responsible. This made his interpretative innovation extremely useful for detecting novel forms of domination within contemporary liberal democracies and capitalist societies.

The fourth and last innovation pertained to the role of the 'mob', the classical argument against democracy. Condorcet did, indeed, write of the 'despotism of the mob' (the last of the eight forms of despotism he listed), and he acknowledged that in modern territorial states mob rule could grow more readily because of the geographical concentration of masses of people in a 'big capital and big commercial centres'. However, he did not repeat the usual refrain of animus against the people, arguing instead that the mob is not an autonomous despotic agent, but is rather 'the agent of some other power than a despotism in its own right'.

Equal liberty

The most difficult text included here is the set of notes on the meaning of 'freedom'.²¹ Written in preparation for the *Tableau*, it was never revised for publication and there are gaps in the text. But in it we see Condorcet attempting to pin down his understanding of this key concept, fundamental to how he saw emancipation, despotism and, as we shall see, revolution. Here it is worth teasing out its main claims.

Condorcet's key idea is to link the concept of freedom to equality, so that real or full freedom for individuals presupposes equal participation in the making of laws and the equalising of their chances of influencing them. Aware that 'it is impossible to avoid some arbitrariness in the application of these terms' and that his own account is relative to 'our current state of enlightenment', he proceeds to distinguish between senses of 'freedom' – what it means to be free with respect to different aspects of life (natural, social, political and personal) to which different rights correspond – and how they relate to one another, and in what ways peoples can be free as distinct from individuals. He also raises the question of how to identify degrees of freedom.

²¹ The only printed version was edited by Cahen 1914: 581–94.

He starts with the universal condition of 'natural freedom', a 'faculty' never absolute but relative. Liberty in this general and abstract sense derives from 'faculties which belong to human nature, faculties which all individuals have to a fairly advanced degree' and involves intellect, sensibility and memory; but liberty also belongs 'to animals as well as ourselves' and is strengthened 'with the growth of reason, of enlightenment, of fineness of moral sentiment'. It consists in what we may call a 'two-way power': the ability 'to make a different judgement, to take a different decision', in respect of both actions and beliefs, that ceases 'when there is just one desire to which the will succumbs automatically'. Freedom in this sense exists even when we face insurmountable external obstacles, unless, facing these, our wills are paralysed, disabling us from acting otherwise. On Condorcet's account, natural freedom manifests itself in experience, in the moment an individual faces 'two contradictory sentiments' (*deux sentiments contraires*) relating to the same action and has to decide between them. Deliberation is a manifestation of freedom, both in the life of the individual and the society; conversely, liberty declines or ceases when the will yields to a desire without reflection or when there is only one dominating desire. This is also the case with societies when they yield to a despotic rule.

What is 'social freedom', attributable to 'man in society'? Condorcet views this as 'what makes an individual free in the civil order' and it exists (in a phrase echoing Rousseau) under 'conditions ... necessary to preserve man's natural freedom'. Social freedom thus involves free consent to associate with others (*le choix de l'association*) and submit a certain number of their actions to common rules (the opposite of despotic domination) – necessary rules that serve individuals' interests, arrived at by majorities but protecting minorities, and established by all participating on an equal basis.

This last feature is what constitutes 'political freedom'. Condorcet advanced a democratic theory of liberty insofar as he based the legitimacy of submitting to the law not merely on the inclusion in an association and the rule of law but on participation: 'the ability to contribute on a completely equal basis to the establishment of common rules, which place an obligation on all in accordance with the will of the greatest number'. This liberty is not an addition to an individual's freedom, but a 'branch' of it: political liberty is individual liberty when considered in the domain of making laws. Condorcet argued that social freedom in law-making means accepting majority rule, which, in turn, is legitimate only if all individuals can join in law-making.

'Personal freedom' (which civil rights guarantee) concerns areas of freedom that are considered separate from political liberty; it is also definable as 'independence', a condition that is more enjoyed the less the law affects an individual's actions. Personal freedom can exist whether there is political freedom or not, that is, under democracy or despotism. Conversely, there can be political freedom alongside little or no personal freedom (he makes a distinction between *liberté légale* and *liberté réelle*). But Condorcet's view is that genuine social freedom exists only where there is both political and personal freedom.

A 'free people' is one in which all who have 'attained the age of reason' enjoy social freedom. This leads Condorcet to use the awkward phrase 'semi-free' (*demi libre*) to characterise various different cases of imperfect freedom, thus understood. One is the case of direct despotism, where a subject people does not vote at all, but individuals retain some personal liberties or independence. Thus, the Turks may be free, but politically they are slaves and social freedom is 'only a remote possibility'. Nowhere do women enjoy social freedom (although Condorcet thought that France was the only country in which they enjoyed personal freedom) and that 'some' of it existed for Frenchmen and in a few Swiss cantons, while the Americans were 'almost free', but not fully so since women lacked political freedom and slaves had no freedom at all. As he argued in the text on despotism, Condorcet held that 'semi-freedom' could exist in two types of case: first, where only some are included in the making of laws that all must obey; and, second, where all those qualified take part but in ways that are not equal: for instance, when the legislative influence of the members of some group shows itself to be proportional to the material resources at their disposal or educational advantage which they have, or to some other similar factor. In the former case, there are non-voting subjects, in the latter a democratic society which consists of individuals who are relatively, but not equally, free. Thus, there are degrees of freedom, and legal liberty, enshrined in bills of rights, that can exist without real or equal liberty. And Condorcet cites two other types of case: 'a semi-free people with subjects', as with the Romans (and, one may add, imperialism generally) and 'a subject people of semi-free citizens', where a minority have political rights.

If we consider Condorcet's view in relation to modern discussions of the concept of freedom and if we are to use the now conventional categories of 'negative', 'positive' and 'republican' liberty, then it clearly counts as 'republican' ('a man can be called *free* when he is subject in

none of his actions to the arbitrary will of [another] individual') – but it is republican in a distinctively democratic sense, because of its focus on equality (which he considered an inalienable right). Condorcet's republicanism ascribes a central role to equality, without which liberty cannot be enjoyed securely ('equal liberty' is the expression he uses). What is clear is that for Condorcet the conception of freedom defined a condition for measuring progress, a general criterion of judgement that allowed people to evaluate critically their social and political conditions. In this sense his was a democratic conception of liberty, one that could be used as a tool for denouncing subjection and vindicating rights. As he wrote in the summer of 1791, 'I believe that the human species is indefinitely perfectible' and that it 'is impossible to define the term limit' of this progress in the domain of freedom, peace, happiness and virtue.²²

Emergency and revolution

This general criterion of freedom as a condition of progress casts light on the relationship between a government and its people. In countries in which the people enjoy the right to change government (according to Condorcet, the 'right to depose the Prince, to change the government' was inalienable), then insurrection is justified in the case in which that right is violated. In his view, criticism of people's behaviour might pertain to the manner in which they behave or else offer alternative interpretations of their right, but the right itself was not in question. A people that wants to get rid of a government and realises it needs to do something extra-legal to do so is called semi-free because, although subjected, it has a sentiment of liberty.²³ This argument paved the way to Condorcet's justification of revolution.

The essay *On the meaning of the word 'revolutionary'* is one of the documents that better than any other helps us appreciate Condorcet's theory of liberty and politics. He had no doubt that the word 'revolution' was 'made specifically for our [French] revolution', a radical reaction against injustice and inequality that was deeply and historically entrenched in society, religion, morals and politics. Yet his goal with this essay was not

²² Cited in Buisson 1929: 47.

²³ See Condorcet, 'Réflexions sur la Révolution de 1688, et sur celle du 10 août 1792' (O.C. XII: 203).

to give an historical interpretation, but rather, a normative legitimization of the French Revolution.

By the time he wrote it, Edmund Burke had already launched his attack on the French Revolution as a revolution against liberty (his *Reflections on the Revolution in France* came out in 1790). Burke contrasted the French to the English revolution of 1688, seeing the latter as the truly legitimate revolution because it was in agreement with the historical evolution of English freedom. The opposite was true for the French Revolution, which legitimised its vindication of rights by appeal to reason and nature. The most famous reply to Burke's theory was Thomas Paine's *The Rights of Man* (1791). But Condorcet also challenged Burke's anti-revolutionary theory in the ninth epoch of his *Esquisse*. Resuming one of the themes of his polemic against William Pitt, Condorcet argued in favour of comparing the English and the French revolutions in order to appreciate the different forms that revolution can take, but insisted that to do so was not to question the legitimacy of the French Revolution.²⁴ In fact, the revolution of 1789 was no less legitimate than the revolution of 1688. Yet those revolutions were different and what made them different was the form of their claim to freedom: the latter claimed it as an extension of existing rights; the former claimed it in the name of a prior good, natural rights, to which all citizens were ostensibly entitled.²⁵

The British based their demands on their past; the French on reason itself, not having an equivalent past upon which to rely. The latter appealed to human beings as such and put into effect the idea of equality. The paradox of Condorcet's argument was that whereas Burke, despite his contextualism, summed up his position with an axiomatic declaration (only one revolution was good or true), Condorcet concluded instead in a way that was more respectful of historical circumstances: both revolutions were legitimate, each being an affirmation of rights within its own context.²⁶

The second problem this essay discusses is: 'How are we to recognise a revolution?' Condorcet claims that the meaning of the word 'revolution' derives from the fact that it has liberty at its core. Thus, any political change that would annul or eliminate liberty would not be a revolution:

²⁴ Condorcet, *Lettre de Junius à William Pitt* (O.C. XII: 328–29).

²⁵ Cf. Williams 1930: 295–308.

²⁶ Cf. Maria Ludassy, 'La tradition libérale divisée: Condorcet et Burke devant les révolutions anglaise, américaine et française', in Crépel and Gilain 1989: 341–8.

tyranny cannot be a revolution. Condorcet here implicitly advanced the distinction between 're-action' and 're-volution', a distinction that opened the door to his third crucial question: 'If liberty is the revolution's goal, how can a revolution legitimately limit liberty?'

Burke used this question to condemn the French Revolution as illiberal ('Their freedom is not liberal'). In the ninth epoch Condorcet proposed a distinction between revolutions that are 'more complete and immediate', but also more violent and radical, as, for example, the French one, and revolutions that are 'slower and more incomplete, but also more peaceful', as, for instance, the American one. Yet how outrageous can a revolution be without losing its revolutionary character? To answer this question, and defend the French Revolution, Condorcet sketched a proto-theory of emergency power, perhaps the most original aspect of this essay. He reached this conclusion in two steps: first, he made clear that in a revolutionary situation some rights need to be sacrificed; and, second, he sought clearly to define the limits of this sacrifice. 'The purpose of the social pact is the equal and unqualified enjoyment of rights which belong to humanity.' The 'mutual assurance' of those rights is dissolved when 'some individuals' attempt to dissolve the pact. At this point, 'we [the majority] have the right to take steps to identify those individuals' who want to do so; that is to say, we have the right to suspend ordinary law, which is general and not allowed to 'identify' or name any particular individual (or discriminate against anyone). Yet in the event of a revolution, when the social pact is broken, the distinction between 'us' and 'them' is a fact, and at this point not all rights can be equally protected, but some need to be sacrificed in order to protect 'the more important' among them (the right to security).

We may thus say, following Condorcet, that exceptional situations are those in which a political community is forced to make a distinction among rights and to decide which of them are 'more important' or come first. According to Condorcet, this act of distinguishing consists in deciding when, and for how long, some rights can be suspended. This is necessary in order to defend 'ourselves' and moreover to avoid conspiracy or secret behaviour by the 'others'. Thus,

In the 1666 Great Fire of London, the fire could not be stopped from spreading because the law forbade the demolition of houses. The furniture and belongings of people who were not at home were allowed to go on burning because the law forbade the breaking down of doors. Let us not follow that example.

Echoing the republican argument in favour of dictatorial power, Condorcet argued that emergency in revolutionary times may entail the revocation of ordinary laws, laws that are made according to accepted procedures and with no preconceived time limit. But revolutionary laws are conceived as provisional from the start – this is what makes them exceptional, and what would make them tyrannical if applied on ordinary bases and in ordinary times (if they lost their exceptional character). Thus, whenever a revolutionary law outlasts the occasion for which it was intended it becomes tyrannical. It is revolutionary because it deals with security only (of society and its members), not because it promotes violence. That is to say, it selects one right over all other rights as prior or more important (the right to survival), and declares that some other rights need to be suspended temporarily if ‘the very survival of our society’ is to be guaranteed. (The same argument guided President Abraham Lincoln’s *Proclamation Suspending the Writ of Habeas Corpus* of 24 September 1862.)

Condorcet’s contribution to the theory of exception concludes with an attempt to distinguish between what we would today call consolidated democracy and non-consolidated democracy: ‘In short, can the power of the law in a country whose constitution has not been consolidated by a few years of custom and practice be calibrated in the same way as in a country where respect for established legislation, lasting until that legislation is reformed by a legitimate author, has become one of the primary virtues of the citizen?’ Adopting revolutionary measures is required, ‘not to prolong the revolution’, but ‘to bring the revolution to fruition’ or stabilise the newly attained rights. Condorcet opposed an *unlimited limitation of liberty* (a choice that would turn the Revolution into the Terror) and, moreover, avoided subjecting the law to the mercies of republican virtue. He turned to moral and intellectual perfectibility as the means by which to advance the principles of reason (rights and equality), rather than virtue or the zeal of heroism, and in this way achieved an important distinction between republics and democracies. As he argued in his essay *Sur les assemblées provinciales*, any legislation that relies on exceptional talents and heroic virtues is dangerous (O.C. VIII: 117–659).

Reception

The story of Condorcet’s posthumous reception is one of continual contestation and re-appropriation. In 1795, Friedrich Schlegel, the German Romantic poet, scholar and critic of the Enlightenment, hailed the

Esquisse as 'rich in new and intelligent considerations, pertinent judgments and fruitful germs of thought ... [it] contains some remarkable suggestions for applying scientific principles to the history of humanity' (Schlegel 1988: 45). The original title of Thomas Malthus's influential work, first published in 1798, was *An Essay on the Principle of Population, as it Affects the Future Improvement of Society with Remarks on the Speculation of Mr. Godwin, M. Condorcet, and Other Writers*. In 1796, Louis de Bonald, French Catholic counter-revolutionary, denounced 'the fanatical picture that this philosopher gives of his hypothetical society'²⁷ and the voluntarism of his 'social art': society constitutes man and 'to wish to change monarchy into democracy amounts to introducing a contradiction into the [social] body and its constitutive elements ... the germ of whose development is the family'.²⁸ By contrast, Henri de Saint-Simon, early French socialist and prophetic technocratic visionary, praised the *Esquisse* for demonstrating that 'the progress of civilisation had consistently tended towards the establishment of the industrial system. He executed the plan very badly, but his discovery was nevertheless a great step towards the establishment of that system.'²⁹

Saint-Simon's complaint was also made by August Comte, founder of Positivism, who coined the very word 'sociology'. Both of these influential thinkers, while they embraced the idea of progress towards modern science-based industrial society, shared de Bonald's critique of Condorcet's voluntaristic belief in the capacity of individuals to choose intelligently and shape their collective futures (Carl Schmitt was to repeat the criticism a century later). They and their nineteenth-century followers transformed Condorcet's conception of social science, with its thin conception of society and history, its focus on interacting individuals and its vision of an open future in which human beings could attain increasing freedom from both physical and social constraints, into something like its opposite. Historical laws and social determinism replaced the 'social art' and progress was now conceived as a succession of organic social systems, each with its own organising principles of hierarchy and subordination, to be inculcated in all as a kind of social religion, ensuring social cohesion through a system of moral education.

²⁷ Quoted in Baker 2004: 56.

²⁸ Louis de Bonald, *Observations sur un ouvrage posthume de M. de Condorcet*, in *Œuvres de M. Bonald*. Paris, 1843, vol. 14, p. 468, cited in Condorcet 2004: 66.

²⁹ Saint-Simon 1865–78, 37: 169–70.

As a social scientist, Condorcet's contributions to social mathematics had to wait until the mid-twentieth century for revival, when social choice theory, beginning with the work of Kenneth Arrow, Duncan Black and others, systematised the rather haphazard approach of Condorcet, Jean-Charles de Borda and others to explaining the difficulties of group decisions and the inconsistencies to which they may lead because of majority-rule cycles, and the conditions under which they can be avoided. His jury theorem has, as McLean and Hewitt write, been 'rousing after a very long sleep' and indeed

Condorcet, almost single-handedly, founded an entire academic subject. The theory of voting has very deep implications for political practice and theory alike ... Only recently have political scientists come to see this. (McLean and Hewitt 1994: 74, 78)

Moreover, as Arrow and others have insisted, there is a need to broaden the informational basis of social choice beyond mere voting. Amartya Sen has noted that this echoes Condorcet's advocacy of public (including women's) education, his interest in enriching social statistics and his commitment to the need for continuing public discussion (Sen 2009: 94).

The posthumous political evaluations of Condorcet similarly reveal repeated contestation and re-appropriation. Recognised in his lifetime as the last of the *philosophes* – and mocked by John Adams as a 'Man of Science, but little acquainted with history: ignorant, totally ignorant of all Writings of the Science of Government, with very little knowledge of the Human Heart and still less of the World'³⁰ – Condorcet's reputation as a political theorist did not survive his death. He was identified as a party man, although he was not one, and remembered above all as a victim of the Terror. Benjamin Constant's acknowledgement of him as the father of the distinction between the liberty of the Ancients and that of the Moderns, and Mill's appreciative mention of his defence of women's emancipation did not save his political ideas from oblivion. He was once more excoriated for his subversive voluntarism and rationalism after the French revolutionary upheavals of 1848 (by Sainte-Beuve) and 1871, while Jean Jaurès saw in the *Esquisse* principles of 'mutuality that are as near as possible to what we today call socialism'.³¹ In 1933, amid

³⁰ From an unpublished comment of Adams about Condorcet's *Lettres d'un bourgeois de New-Haven* dated 1788 and cited from Dorette Huggins, 'John Adams et ses réflexions sur Condorcet', in Chouillet and Crépel 1997: 211.

³¹ Jean Jaurès, *Histoire socialiste de la Révolution française* (1901–8). 1969 edn, vol. 4, p. 474 cited in Condorcet 2004: 73 fn.

what he called 'the shadows of night ... gathering about us', Sir James Frazer turned with 'relief' to the *Esquisse*'s 'bright, if visionary, picture of the future',³² while in the dark year of 1944 Alexandre Koyré saw in it 'a window opening into the future', a work by which 'the philosophy of the eighteenth century confirmed once more that it is in and by the primacy of the future over the present that man, a reasoning being, affirms and realises his liberty'.³³ In contrast, as we have seen, Sir Isaiah Berlin saw Condorcet's thought as anti-pluralist and thus implicitly totalitarian – an interpretation decisively refuted by Emma Rothschild.

Conclusion

The *Esquisse* is the most influential and arguably the most powerful formulation of the idea of progress – an idea more secular than 'providence', more voluntaristic than 'evolution' and more far-reaching than 'development'. In a nutshell, that idea is that, given economic growth (due to commerce), progress, in its various forms, linked by an unbreakable chain, proceeds intermittently but indefinitely into the future. It is, of course, easy to smile at Condorcet's hopes for moral progress and at his optimism about the consequences of free trade, public deliberation, mass enlightenment and the prospects for peaceful international co-operation. Yet his world was also one beset with innumerable dangers and uncertainties. We have been living with the reality of progress, and are ever more aware of its dark side and its negative consequences as we face the threats of climate change, terrorism, global insecurity and economic meltdown. Yet the idea, which Condorcet so lucidly formulated, has dominated our social and political lives for the last two centuries and is implicit in the modern concept of democracy.

In setting out his hopes for a more decent world, Condorcet sought unceasingly to work out how his goals – of greater equality between individuals and societies, human rights for men and women, the promotion of freedom and the overcoming of despotisms – could be *realised*,³⁴ and began to work out what we have called a democratic theory of liberty. Without the idea of progress, such a theory would have no point; and without such a theory the idea of progress would have no substance. We think that today both the idea and the theory are needed more than ever before.

³² Frazer 1933: 23, 4. ³³ Koyré 1948: 151.

³⁴ See Sen 2009, *passim*, for an argument in praise of this focus of Condorcet's.

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The Sketch

Introduction

Man is born with the ability to receive sensations; to perceive them and to distinguish between the various simple sensations of which they are composed; to remember, recognise and combine them; to compare these combinations; to apprehend what they have in common and the ways in which they differ; to attach signs to them all in order to recognise them more easily and to allow for the ready production of new combinations.

This faculty is developed in him through the action of external objects, that is to say, by the occurrence of certain composite sensations whose constancy or coherence in change are independent of him; through communication with other beings like himself; and finally through various artificial methods which these first developments have led him to invent.

Sensations are attended by pleasure or pain; and man for his part has the capacity to transform such momentary impressions into permanent sentiments of an agreeable or disagreeable character, and then to experience these sentiments when he either observes or recollects the pleasures and pains of other sentient beings.

Finally, as a consequence of this capacity and of his ability to form and combine ideas, there arise between him and his fellow creatures ties of interest and duty, to which nature herself has wished to attach the most precious portion of our happiness and the most painful of our ills.

If one confines oneself to the study and observation of the general facts and laws about the development of these faculties, considering only what is common to all human beings, this science is called metaphysics. But if one studies this development as it manifests itself in the

inhabitants of a certain area at a certain period of time and then traces it on from generation to generation, one has the picture of the progress of the human mind. This progress is subject to the same general laws that can be observed in the development of the faculties of the individual, and it is indeed no more than the sum of that development realised in a large number of individuals joined together in society. What happens at any particular moment is the result of what has happened at all previous moments, and itself has an influence on what will happen in the future.

So such a picture is historical, since it is a record of change and is based on the observation of human societies throughout the different stages of their development. It ought to reveal the order of this change and the influence that each moment exerts upon the subsequent moment, and so ought also to show, in the modifications that the human species has undergone, ceaselessly renewing itself through the immensity of the centuries, the path that it has followed, the steps that it has made towards truth or happiness.

Such observations upon what man has been and what he is today, will instruct us about the means we should employ to make certain and rapid the further progress that his nature allows him still to hope for.

Such is the aim of the work that I have undertaken, and its result will be to show by appeal to reason and fact that nature has set no term to the perfection of human faculties; that the perfectibility of man is truly indefinite; and that the progress of this perfectibility, from now onwards independent of any power that might wish to halt it, has no other limit than the duration of the globe upon which nature has cast us. This progress will doubtless vary in speed, but it will never be reversed as long as the earth occupies its present place in the system of the universe, and as long as the general laws of this system produce neither a general cataclysm nor such changes as will deprive the human race of its present faculties and its present resources.

The first stage of civilisation observed amongst human beings is that of a small society whose members live by hunting and fishing, and know only how to make rather crude weapons and household utensils and to build or dig for themselves a place in which to live, but are already in possession of a language with which to communicate their needs, and a small number of moral ideas which serve as common laws of conduct; living in families, conforming to general customs which take the place of laws, and even possessing a crude system of government.

The uncertainty of life, the difficulty man experiences in providing for his needs, and the necessary cycle of extreme activity and total idleness do not allow him the leisure in which he can indulge in thought and enrich his understanding with new combinations of ideas. The means of satisfying his needs are too dependent on chance and the seasons to encourage any occupation whose progress might be handed down to later generations, and so each man confines himself to perfecting his own individual skill and talent.

Thus, the progress of the human species was necessarily very slow; it could move forward only from time to time when it was favoured by exceptional circumstances. However, we see hunting, fishing and the natural fruits of the earth replaced as a source of subsistence by food obtained from animals that man domesticates and that he learns to keep and to breed. Later, a primitive form of agriculture developed; man was no longer satisfied with the fruits or plants that he came across by chance, but learnt to store them, to collect them around his dwelling, to sow or plant them, and to provide them with favourable conditions under which they could spread.

Property, which at first was limited to the animals that a man killed, his weapons, his nets and his cooking utensils, later came to include his cattle and eventually was extended to the earth that he won from its virgin state and cultivated. On the death of the owner this property naturally passed into the hands of his family, and in consequence some people came to possess a surplus that they could keep. If this surplus was absolute, it gave rise to new needs; but if it existed only in one commodity and at the same time there was a scarcity of another, this state of affairs naturally suggested the idea of exchange, and from then onwards, moral relations grew in number and increased in complexity. A life that was less hazardous and more leisured gave opportunities for meditation or, at least, for sustained observation. Some people adopted the practice of exchanging part of their surplus for labour from which they would then be absolved. In consequence there arose a class of men whose time was not wholly taken up in manual labour and whose desires extended beyond their elementary needs. Industry was born; the arts that were already known, were spread and perfected; as men became more experienced and attentive, quite casual information suggested to them new arts; the population grew as the means of subsistence became less dangerous and precarious; agriculture, which could support a greater number of people on the same amount of

land, replaced the other means of subsistence; it encouraged the growth of the population and this, in its turn, favoured progress; acquired ideas were communicated more quickly and were perpetuated more surely in a society that had become more sedentary, more accessible and more intimate. Already, the dawn of science had begun to break; man revealed himself to be distinct from the other species of animals and seemed no longer confined like them to a purely individual perfection.

As human relations increased in number, scope and complexity, it became necessary to have a method of communicating with those who were absent, of perpetuating the memory of an event with greater precision than that afforded by oral tradition, of fixing the terms of an agreement with greater certainty than that assured by the testimony of witnesses, and of registering in a more enduring manner those respected customs according to which the members of a single society had agreed to regulate their conduct. So the need for writing was felt, and writing was invented. It seems to have been at first a truly pictorial system of representation, but this gave way to a more conventional representation which preserved merely the characteristic features of objects. Finally, by a sort of metaphor analogous to that which had already been introduced into language, the image of a physical object came to express moral ideas. The origin of these signs, like that of words, was ultimately forgotten, and writing became the art of attaching a conventional sign to every idea, to every word, and so by extension, to every modification of ideas and words.

And so mankind had both a written and spoken language, both of which had to be learnt and between which an equivalence had to be established.

Certain men of genius, humanity's eternal benefactors, whose names and country are forever buried in oblivion, observed that all the words of a language were nothing but the combinations of a very limited number of primary sounds, but that their number, though very limited, was enough to form an almost limitless number of different combinations. They devised the notion of using visible signs to designate not the ideas or the words that corresponded to ideas, but the simple elements of which words are composed. And here we have the origin of the alphabet; a small number of signs sufficed to write everything, just as a small number of sounds sufficed to say everything. The written language was the same as the spoken language; all that was necessary was to know how to recognise and reproduce these few signs, and this final step assured the progress of the human race for ever.

Perhaps it would be useful today to invent a written language that, reserved exclusively for the sciences, expressing only the combinations of those simple ideas which are the same for every mind, and used only for the reasoning of strict logic, for the precise and calculated operations of the understanding would be understood by the people of every country and could be translated into every vernacular and would not have to be altered, as happens now, when it passed into general use.

So by a strange revolution this type of writing, whose survival would only then have helped to prolong ignorance, would now become, in the hands of philosophy, a useful tool for the swift propagation of enlightenment and for the perfection of scientific method.

All peoples whose history is recorded fall somewhere between our present degree of civilisation and that which we still see amongst savage tribes; if we survey in a single sweep the universal history of peoples we see them sometimes making fresh progress, sometimes plunging back into ignorance, sometimes surviving somewhere between these extremes or halted at a certain point, sometimes disappearing from the earth under the conqueror's heel, mixing with the victors or living on in slavery, or sometimes receiving knowledge from some more enlightened people in order to transmit it in their turn to other nations, and so welding an uninterrupted chain between the beginning of historical time and the century in which we live, between the first peoples known to us and the present nations of Europe.

So the picture that I have undertaken to sketch falls into three distinct parts.

In the first, our information is based on the tales that travellers bring back to us about the state of the human race among the less civilised peoples, and we have to conjecture the stages by which man living in isolation or restricted to the kind of association necessary for survival, was able to make the first steps on a path whose destination is the use of a structured language. This is the most important distinction and indeed, apart from a few more extensive ideas of morality and the feeble beginnings of social order, the only one separating man from the animals who like him live in a regular and continuous society. We are therefore in this matter forced to rely upon theoretical observations about the development of our intellectual and moral faculties.

In order to carry the history of man up to the point where he practises certain arts, where knowledge of the sciences has already begun to enlighten him, where trade unites the nations and where, finally,

alphabetical writing is invented, we can add to this first guide the history of the different societies which have been observed in all their intermediary stages, although none can be traced back far enough to enable us to bridge the gulf which separates these two great eras of the human race.

Here the picture begins to depend in large part on a succession of facts transmitted to us in history, but it is necessary to select them from the history of different peoples, to compare them and combine them in order to extract the hypothetical history of a unique people and to compose the picture of its progress.

The history of man from the time when alphabetical writing was known in Greece to the condition of the human race at the present day in the most enlightened countries of Europe is linked by an uninterrupted chain of facts and observations; and so at this point the picture of the march and progress of the human mind becomes truly historical. Philosophy has nothing more to guess, no more hypothetical surmises to make; it is enough to assemble and order the facts and to show the useful truths that can be derived from their connections and from their totality.

When we have shown all this, there will remain one last picture for us to sketch: that of our hopes, and of the progress reserved for future generations, which the constancy of the laws of nature seems to assure them. It will be necessary to indicate by what stages what must appear to us today a fantastic hope ought in time to become possible, and even easily realised; to show why, in spite of the transitory successes of prejudice and the support that it receives from the corruption of governments or peoples, truth alone will obtain a lasting victory; we shall demonstrate how nature has joined together indissolubly the progress of knowledge and that of liberty, virtue and respect for the natural rights of man; and how these, the only real goods that we possess, though so often separated that they have even been held to be incompatible, must on the contrary become inseparable from the moment when enlightenment has attained a certain level in a number of nations, and has penetrated throughout the whole mass of a great people whose language is universally known and whose commercial relations embrace the whole area of the globe. Once such a close accord had been established between all enlightened men, from then onwards all will be the friends of humanity, all will work together for its perfection and its happiness.

We shall reveal the origin and trace the history of those widespread errors which have somewhat retarded or suspended the progress of

reason and which have, as often as forces of a political character, even caused man to fall back into ignorance.

The operations of the understanding that lead us into error or hold us there, from the subtle paralogism which can deceive even the most enlightened of men to the dreams of a madman, belong no less than the methods of right reasoning or of discourse to the theory of the development of our individual faculties; on the same principle, the way in which general errors are insinuated amongst peoples and are propagated, transmitted and perpetuated is all part of the historical picture of the progress of the human mind. Like the truths that perfect and illuminate it, they are the necessary consequences of its activity and of the disproportion that forever holds between what it knows, what it wishes to know and what it believes it needs to know.

It can even be observed that, according to the general laws of the development of our faculties, certain prejudices have necessarily come into being at each stage of our progress, but they have extended their seductions or their empire long beyond their due season, because men retain the prejudices of their childhood, their country and their age long after they have discovered all the truths necessary to destroy them.

Finally, in all countries at all times there are different prejudices varying with the standard of education of the different classes of men and their professions. The prejudices of philosophers harm the progress of truth; those of the less enlightened classes retard the propagation of truths already known; those of certain eminent or powerful professions place obstacles in truth's way: here we see three enemies whom reason is obliged to combat without respite, and whom she vanquishes often only after a long and painful struggle. The history of these struggles, of the birth, triumph and fall of prejudices will occupy a great part of this work and will be neither the least important nor the least useful section of it.

If there is to be a science for predicting the progress of the human race, for directing and hastening it, the history of the progress already achieved must be its foundation.

Philosophy has had to proscribe in no uncertain terms that superstition which believes that rules of conduct can be found only in the history of past centuries, and truth only in the study of ancient opinions. But ought it not to condemn with equal vigour the prejudice that arrogantly rejects the lessons of experience? Without doubt it is only by meditation, which furnishes us with fruitful combinations of ideas, that we can arrive at any general truths in the science of man. But if the study of individual human

beings is useful to the metaphysician and the moralist, why should the study of societies be any less useful to them and to the political philosopher. If it is useful to observe the various societies that exist side by side, and to study the relations between them, why should it not also be useful to observe them across the passage of time? Even if we suppose that these observations can be neglected in the search for speculative truths, ought they to be ignored when it is a question of applying these truths in practice and of deducing from science the art which should be its useful result? Do not our prejudices and the evils that proceed from them have their origins in the prejudices of our ancestors? Is not one of the most certain ways of undeceiving ourselves from the one and of guarding ourselves against the other, to study their origins and their effects?

Are we now at the stage when we have nothing further to fear, neither new errors nor the return of old ones; when no corrupting institution can any longer be devised by hypocrisy, and adopted by ignorance or enthusiasm; when no evil combination can any longer ruin a great nation? Would it then be useless to know how in the past nations have been deceived, corrupted or plunged into misery?

Everything tells us that we are now close upon one of the great revolutions of the human race. If we wish to learn what to expect from it and to procure a certain guide to lead us in the midst of its vicissitudes, what could be more suitable than to have some picture of the revolutions that have gone before it and prepared its way? The present state of enlightenment assures us that this revolution will have a favourable result, but is not this only on condition that we know how to employ our knowledge and resources to their fullest extent? And in order that the happiness that it promises may be less dearly bought, that it may be diffused more rapidly over a greater area, that it may be more complete in its effects, do we not need to study the history of the human spirit to discover what obstacles we still have to fear and what means are open to us of surmounting them?

I shall divide the area that I propose to cover into nine great stages and in a tenth I shall venture to offer some observations on the future destiny of the human race.

I shall confine myself here to presenting the main features that characterise each of these stages; I shall deal only with the outlines, and not stop to mention exceptions or details.

I shall point out the subjects and the conclusions; the work itself will offer further developments and proofs.

The first epoch

Men are united in tribes

Tribal society is the first stage in human history about which we have any direct observation; and, therefore, if we wish to conjecture how man arrived at this degree of civilisation, we can do so only by examining his intellectual and moral qualities and his physical constitution.

A few observations about the physical qualities of man that might have favoured the original formation of society, and a brief analysis of the development of our intellectual and moral faculties would, then, be appropriate as an introduction to the picture of this stage.

A family society seems to be natural to man. Its origin is to be found in the child's need for its parents and in the natural solicitude of the mother and – though to a lesser extent – of the father for their offspring. But the child's need lasts long enough to bring into existence and foster a desire to perpetuate this life together and to awaken a lively sense of its advantages. A family that lived in a region offering ready means of subsistence could increase and become a tribe.

Those tribes which arose as a result of the association of several separate families represent a later and less common phenomenon, since associations of this sort are prompted by motives of less urgency and depend upon the concurrence of a greater number of circumstances.

The first fruits of continuous association are a number of arts, all concerned with the satisfaction of simple needs. They include the making of weapons, cooking and the construction of the utensils necessary for cooking, preserving food and providing against those times of the year when fresh supplies are unobtainable: it is these arts that first serve to distinguish human society from that formed by various species of animals.

In some of these tribes the women grew edible plants around their huts and these supplemented the produce of hunting and fishing. In others which lived where the earth in its natural state supplied vegetation that can be eaten, the finding and gathering of this food occupied part of the time of these primitive peoples. In these latter cases where the advantages of association were less obvious, we find civilisation reduced almost to the simple family society. However, the use of structured language seems universal.

More frequent and stable intercourse between people, the identity of their interests, and the help that they gave one another in communal hunting and defence against an enemy must have produced in equal

measure the sentiment of justice and mutual affection between the members of the same society. Soon this affection developed into an attachment to the society itself: and this, in its turn, gave rise to violent hatred of the enemies of the tribe and an inextinguishable thirst for revenge.

The tribe needed to act in concert for the purpose of self-defence or to facilitate the task of acquiring more assured and more abundant means of subsistence. And this situation, which created the necessity for a leader, introduced the first ideas of political authority into these societies. In all matters of common interest which called for a common decision, all those who were expected to execute the decision had to be consulted. Women who were prevented from taking part in long expeditions and war because of their weakness were by the same token excluded from the general councils, which usually had to do with such matters. As their decisions required experience, only those were admitted to consultations who might be assumed to have it. Any disagreement arising within the bosom of a single society would disturb its harmony and might even bring about its destruction; and so it was natural that decisions should become the responsibility of those who by reason of their age or personal qualities inspired the greatest confidence.

Such were the beginnings of political institutions.

The formation of language must have preceded these institutions. The idea of expressing objects by conventional signs may seem above the reach of human intelligence at this stage of civilisation, but it is likely that such signs were introduced into common use as the work of time, by degrees, almost imperceptibly.

The invention of the bow was the work of a single man of genius, the formation of language was that of the whole society. These two kinds of progress are equally characteristic of human genius. The one, more swift in its operation, is the result of new combinations of ideas that men favoured by nature are able to form, it is the prize of their meditations and their efforts; the other, a slower process, is born of the reflections and observations that offer themselves to all men and even from the habits that they contract in the course of their life together.

Measured and regular movements can be performed with less fatigue; and their order and arrangement can be understood more easily by those who watch or listen to them. They are for these two reasons a source of pleasure. And thus it is that we can trace the origin of the dance, of music, and of poetry to the early infancy of society. The dance is employed for the entertainment of the young and on occasions of public rejoicing. We

also find love songs and songs of battle, and people even know how to make a few musical instruments. The art of eloquence is not absolutely unknown in these tribes; at any rate in ceremonial speeches a graver and more solemn note is struck; and even rhetorical exaggeration is no stranger to them.

Vengeance and cruelty towards enemies erected into virtues; the opinion that condemns women to a sort of slavery; the right to command in battle regarded as the prerogative of one family; and the first notions of the various kinds of superstition – such are the errors that distinguish this stage, and it must be our task to trace their origins and to discover their motives. For man does not adopt without motivation an error which has not been made to seem quite natural by his early upbringing; if he does adopt any new errors, it must be because they are linked with the errors of his childhood and because his interests, passions or opinions, or the course of events have disposed him to receive them.

Some crude knowledge of astronomy and of certain medicinal plants used in sickness or for curing wounds are the only sciences known to these savages, and these are already corrupted by an admixture of superstition.

But, nevertheless, this stage confronts us with a fact that is important in the history of the human mind. We can detect the first signs of an institution which has had contrary effects upon human progress; which has accelerated the progress of reason at the same time as it has propagated error; which has enriched science with new truths, whilst it has plunged the people into ignorance and religious servitude, and which has brought transitory benefits at the price of a long and degrading tyranny.

I refer to the formation of a class of men who are the depositaries of the principles of the sciences or the procedures of the arts, of the mysteries or ceremonies of religion, of the practices of superstition, and often even of the secrets of legislation and politics. I refer to the separation of the human race into two parts: the one destined to teach, the other for believing; the one jealously hiding what it boasts of knowing, the other receiving with respect whatever is condescendingly revealed to it; the one wishing to place itself above reason, the other humbly renouncing its own reason and abasing itself to less than human stature by acknowledging in others prerogatives that would place them above their common nature.

This distinction, whose relics we are still now offered by priests at the end of the eighteenth century, is found amongst the least civilised savages who already have their charlatans and their sorcerers. It is a distinction so

general, one meets with it so constantly in all stages of civilisation that it must have a foundation in nature itself; and thus we shall discover in our examination of the faculties of man in the early days of society the cause of the credulity of the original dupes, and the cause of the crude cunning of the original impostors.

The second epoch

*Pastoral peoples: the transition from this stage to that of
agricultural peoples*

The idea of keeping in captivity the animals caught in hunting must have occurred very naturally to man: what was required was that they should be tame enough to be kept without difficulty; that there should be ample facilities for grazing; that the family should have more food than it could eat itself or, alternatively, that it should live in fear of famine through failure in hunting or through the inclemency of the seasons.

At first the animals were kept merely as a reserve or larder, but it was soon found that they could breed and so provide a more lasting means of subsistence. Their milk was an addition to the diet of early man; so that, though at first regarded only as a supplement to the produce of the hunt, they soon proved to be a source of supply that was more certain, more abundant and more easily come by. Accordingly, hunting ceased to be the principal means of subsistence, and, in the end, to be one at all: it survived only as a pastime and as a much needed way of protecting the herds against wild beasts, for the herds had now become so large that they could not find enough to eat near the tribal dwellings.

A more sedentary and less strenuous form of life afforded man leisure, and this in turn favoured the development of the human mind. When men were certain of their sustenance, and were no longer anxious about their elementary needs, they looked for new sensations in the means of satisfying them.

The arts made some progress; some knowledge was acquired about the feeding of domestic animals, the encouragement of their reproduction, and even about the improvement of strains.

Men discovered the use of wool, and now wore clothes instead of skins.

Family society became gentler without becoming any less intimate. As the herds of the various families bred at different rates, differences

in wealth appeared. Then the idea arose whereby one man shared his flocks and herds with another who had none, and this other devoted his time and energy to looking after them. It was noticed that the labour of a young person in good health was worth more than was strictly necessary for his keep, and it became the custom to take prisoners of war as slaves instead of butchering them.

Hospitality in this pastoral stage of history was practised more formally than it had been in earlier times, and was an important solemnity even among peoples who roamed about in wagons or moved with their tents. There were more opportunities for practising hospitality between individuals, between families and between tribes. This act of common humanity became a social duty and was made subject to rules.

Then, as some families had an assured subsistence and even a constant surplus and other men lacked the bare necessities of life, natural compassion for the less fortunate gave them the sentiment and habit of benevolence. Manners became less harsh, the slavery of women lost some of its rigour and the wives of the rich were exempted from arduous work.

Greater variety in the articles used to satisfy different wants and in the instruments used to make them, and greater inequality in distribution enlarged the scope of barter and gave rise to genuine trade. This process could not develop without revealing the necessity for a common measure and for some form of money.

Tribes became more numerous; at the same time their dwellings, when they were fixed, tended to be situated farther apart from one another so that the herds could feed more easily; though once they had discovered that some of the animals that they had tamed could be used for carrying or dragging heavy loads, they kept their camps on the move and settled anywhere only briefly.

Each nation had a warrior chieftain, and as the nation was made up of different tribes, each tribe had its chieftain. In almost all cases this honour belonged to certain families. The heads of families who owned large herds and many slaves, and employed many poorer men, shared the authority of the leaders of the tribe, just as the latter shared their authority with the leaders of the nation when age, experience and military repute merited that honour. It is to this stage of society's development that we can trace the origin of slavery and of the inequality of political rights between grown men.

Disputes, which became steadily more numerous and more complicated, were settled by the decisions of the heads of families or the tribal chieftains either by the light of natural reason or in accordance with traditional usage. The body of these judgements, which bore witness to customary usage and saw that it was perpetuated, soon constituted what was in effect a system of traditional law sufficiently consistent and well defined to meet the growing needs of society. The notion of property and of the rights of property was defined more precisely, and its field enlarged. The rights of inheritance became more important and so had to be governed by a fixed code. Agreements were contracted more frequently and they concerned a larger number of issues; they had therefore to be subject to formal rules. The manner in which these agreements were promulgated had also its rules so as to ensure their proper execution.

There was some slight progress in astronomy which can be ascribed to the practical value of this study and to the occupation it afforded shepherds during the long, eventless watches of the night.

At the same time, however, we see the art of deceiving men in order to rob them, of dominating their minds by playing upon their hopes and fears brought to perfection. Some regularity was introduced into the offices of religion; systems of belief were purged of their grosser elements; and men refined to some extent their ideas about the supernatural. We see as a concomitant the advent of pontiff princes, and, in some places, families or tribes devoted to sacerdotal duties, and elsewhere colleges of priests. These differences of form concealed the same phenomenon: a class of individuals who affected insolent prerogatives, who separated themselves from the common mass of mankind so that they might dominate them more effectively, and who sought to gain an exclusive control over medicine and astronomy so that they might hold in their own hands all the means of subjugating the human mind and deprive mankind of any way of unmasking their hypocrisy or destroying their tyranny.

Languages became richer without becoming less figurative or less bold. The metaphors employed were more varied and more agreeable; they were taken from pastoral and forest life, from the regular cycle of the seasons and from nature's more violent manifestations. One consequence of increased leisure was an audience that was more tranquil and attentive and for that reason more difficult to please, and so song, musical instruments and poetry were perfected. Another consequence was that men could now for the first time observe their own sentiments, judge their thoughts critically and select some in preference to others.

Men must have discovered by observation that some plants provided better or more abundant food for the herds than others. The utility of concentrating on the cultivation of these and of separating them from plants that were poor, unhealthy or even dangerous to eat was recognised, and ways of achieving this were discovered. Similarly, in countries where plants, cereals and the natural fruits of the earth could contribute to the human diet, people presumably studied these plants, observed how they grew and began to plant them near their dwellings, to separate them from weeds and to protect them from wild beasts and the greed of strangers. Such ideas must have arisen earlier in the more fertile parts of the earth where nature of herself produced almost enough for human needs. In this way men began to devote themselves to agriculture.

It is clear that in a fertile country with a favourable climate, a piece of land can support far more people if it produces cereal, fruit and roots than it would do if it were used as pasture. So when the soil was not too difficult to cultivate, when the beasts of burden had been trained to work on the land and when agricultural tools had been somewhat improved, farming was able to offer an abundant subsistence and it became the principal occupation of men; and with this the human race reached its third stage.

Some peoples have remained since time immemorial in one or other of the two stages that we have just examined. They have made no progress by their own efforts, but nor have they been affected fundamentally by intercourse or trade with peoples of a very high degree of civilisation. They have acquired by these means a little knowledge, some skill and above all many vices, but they have not been roused from their condition of apathy. The principal causes of this backwardness have been climate and custom; the pleasures of an almost perfect independence, which will reappear only in a society more advanced than anything we have yet attained; the natural attachment that men feel towards opinions instilled in childhood and the customs of their country; the natural aversion of ignorance to anything that is new and strange; the indolence of body and mind which crushes the first weak stirrings of curiosity; and, finally, the power wielded by superstition even in the infancy of society. But we must also take into account the greed, cruelty, corruption and prejudice of civilised nations. For these may well seem to primitive races to be richer, more powerful, more educated and more active than they, but also more depraved, and, above all, unhappier; and so savages, instead of being impressed by the superiority of civilised nations, must often have been terrified by the extent and multiplicity of their needs, by the torments

they suffer through avarice, and by the eternal agitation of their always active and never satisfied desires. Some philosophers have pitied these savages, whilst others have praised them; what to some seem like wisdom and virtue, are by others branded as stupidity and idleness.

The issue between these opposed attitudes will be resolved in the course of this book. We shall see why the progress of the mind has not always resulted in the progress of society towards happiness and virtue; how the combination of prejudice and error has polluted the good that should flow from knowledge, but that depends more on its purity than on its extent. We shall see that the rough and stormy passage from a crude state of society to that degree of civilisation enjoyed by enlightened and free nations is in no way a degeneration of the human race, but is rather a necessary crisis in its gradual progress towards absolute perfection. And finally we shall see that it is not the growth of knowledge, but its decadence that has engendered the vices of civilised peoples, and that knowledge, so far from corrupting man, has always improved him when it could not totally correct or reform him.

The third epoch

The progress of agricultural peoples up to the invention of the alphabet

The picture that we have been sketching is from now onwards to lose its uniformity. We no longer have a number of tribes distinguished only by slight differences in manners, characteristics, opinions and superstitions, but all alike in being attached to the soil and in preserving the pure strain of some primordial family.

Invasions, conquests and the rise and fall of empires are soon to scatter tribes over new territory or to people a single area with different tribes.

The operation of chance will upset the slow but regular march of nature, often retarding it, sometimes accelerating it.

A phenomenon occurring in one country in such-and-such a century is often the effect of some revolution that took place a thousand leagues away, a thousand years before. Many of these events have been engulfed in the night of time, but their influence can be seen in the lives of our forefathers and sometimes even in our own.

But we must first consider the effects of this change upon a single nation, independently of the influence of wars, invasions and the mixture of peoples.

Agriculture binds men to the earth they cultivate. It was no longer possible for them to wander freely with their families and their hunting implements, driving their cattle before them; nor was there any longer unoccupied territory to provide food for them and for the animals on which they depended during their migrations.

Each piece of land had its master, and it was to him that its fruits belonged. When the harvest brought in more than had been spent to obtain it, more even than was necessary to feed and maintain the men and animals who had toiled to produce it, the owner of the land was provided with a source of wealth that he had obtained without labour.

In the first two stages of society, any man, or at least any family, was able to exercise almost all the essential arts. But once men were divided into those who lived off the produce of their land without working and others who lived by selling their labour for wages, and once new crafts and more complicated techniques had been developed, some kind of division of labour was seen to be necessary in the interests of all. It was found that a man's work improved more rapidly if it was limited in scope; that a small number of movements could be carried out with great speed and accuracy once habit had made them familiar; and that it needed less intelligence to do something well if it had been done time and time again.

So while one section of the community devoted itself to agriculture, another made agricultural tools. The supervision of animals, the management of the household and the manufacture of clothes became separate occupations. Where the family possessed only a very small amount of land, one of these tasks was not by itself enough to occupy one person's time, and so several people shared the work and the wages of one. Soon, the arts were extended to new materials which demanded different procedures, and those that were similar formed separate types of work and to each a particular class of workers attached itself. Trade increased, embracing more commodities and bringing them from farther afield, and so a new class of men was formed, occupied solely in buying commodities, storing them, transporting them and then selling them at a profit.

So to the three existing classes that we can already distinguish in pastoral society, owners, servants attached to the family, and slaves, we must now add workers of every kind and merchants.

As society became more fixed, more close-knit, more complex, the need was felt for a more regular and more extensive form of law. Greater precision was required in settling the punishment of crime, the forms of customary agreements, and stricter rules were needed for determining

the facts to which the laws were to be applied. This progress was the slow and gradual product of need and circumstance, and it takes us a few steps farther along the road that we have already followed with the pastoral peoples.

In the first stages of society, education was purely domestic. Children were educated by their fathers, either by working with them or by being instructed by them in such arts as they knew; they received from them the small stock of traditions that made up the history of the tribe or of the family; they learnt the various myths that were preserved; and they acquired a knowledge of the national customs, principles or prejudices which constituted a crude moral code. Songs and dances and military exercises were learnt in the company of friends.

At this stage of society, the children of the richer families received a kind of communal education either in the towns through the conversation of their elders or in the household of some chief to whom they were attached. There they were instructed in the laws of the country, its customs and its prejudices and they learnt to sing the verses in which their history had been recorded.

A more sedentary form of life established a greater equality between the sexes. Women were no longer considered merely as useful objects, slaves in all but their proximity to their master. Men came to see them more as companions, and finally learnt how much they could contribute towards masculine happiness. However, even in the countries where they were most respected and where polygamy was forbidden, reason and justice were not pursued to the extent of a complete reciprocity of duties, nor was equality admitted either in the right of separation or in the punishments for infidelity.

The history of this form of prejudice and its influence on the fate of the human race must figure in the picture that I have undertaken; and nothing will serve better to show the extent to which happiness depends upon the progress of reason.

Some nations remained scattered over the countryside; others were united in towns where there lived the nation's chieftain, the tribal chieftains who shared his power and the elders of each family. There people stored their most valuable possessions in order to escape the clutches of the robbers who inevitably became more numerous as wealth accumulated. As long as nations remained dispersed, custom fixed a place and a time for the chieftains' meetings, for deliberations on matters of common interest and for the tribunals that pronounced judgment.

Nations that recognised a common origin and spoke a common language nearly always formed a more or less intimate federation without renouncing their warlike habits. They made agreements to unite either in defence against foreign enemies, or for the revenge of common wrongs or in the joint performance of some religious duty.

Hospitality and trade brought about a regular intercourse even between tribes of different origins, customs and language; and this intercourse, though interrupted frequently by robbery and war, was on each occasion renewed out of necessity, a force stronger than the love of plunder and the thirst for vengeance. The massacre of the conquered, the confiscation of their possessions and their enslavement were no longer the only rights recognised between warring nations; the surrender of land, ransoms and tribute partly took the place of such barbaric atrocities.

At this stage, anyone who possessed arms was a soldier; whoever had the best weapons and the most experience in handling them and could also supply others with arms and could provision them out of his own stocks inevitably became a chieftain; but the almost voluntary obedience accorded to him contained nothing of servile dependence.

Since there was seldom any necessity for new laws; since there was no public expenditure towards which citizens were obliged to contribute, or if there ever was any expenditure, it was the property of the chief or the common land that bore the burden of it; since the idea of restricting industry and commerce had not yet come into existence; since aggressive wars were undertaken by general consent, or fought solely by volunteers inspired by the love of glory and the desire for plunder, men felt themselves to be free living under these rudimentary governments, despite the hereditary nature of the greater chieftainships, which was almost universal, and the prerogative, unjustly claimed by the lesser chiefs, of sharing in political authority to the exclusion of others and of exercising the functions of administration and the magistrature.

Often, however, a chieftain would indulge in acts of personal vengeance and arbitrary violence; and within the privileged families, pride and faction, unbridled passion and the thirst for gold swelled the number of such crimes. The chieftains who lived in the towns became the instruments of the passions of their royal masters; they stirred up dissension and civil war, they oppressed the people by their injustices, and they plagued them with their villainies and ambitions.

In many nations the excesses of these ruling families exhausted the patience of the masses. They were deposed and hounded out of the

country, or else made to submit to common law; though it was rare for them to be allowed to keep their title with an authority thus limited by common law, and the result was usually the establishment of what we now call republics. In other cases these kings, supported by powerful satellites, and with arms and money to distribute to their followers, exercised an absolute authority: such was the origin of tyranny.

In other countries, particularly in those where there were small tribes not living in towns, the primitive and rudimentary constitutions were retained until the people either fell beneath the yoke of some conqueror, or, themselves fired by the spirit of conquest, swarmed out over neighbouring lands.

Tyranny of this kind was necessarily limited to a small area and therefore in all cases was short-lived. The people soon shook off the yoke which force alone had imposed and which even public approval would have been powerless to maintain. The monster, tyranny, was seen at too close quarters not to inspire more loathing than fear; and force cannot, like opinion, endure for long unless the tyrant extends his empire far enough afield to hide from the people, whom he divides and rules, the secret of his power and his weakness.

The history of republics belongs to the next stage, but our present study now leads us to a new phenomenon.

In the agricultural stage, a community does not take flight when defeated in war, but is obliged under duress to stay where it is and work for the conqueror. When this happens, the conquering nation is often content to assign captains and soldiers to govern the conquered territories, protect and control the disarmed population and raise the tribute exacted in money or kind from the conquered. Sometimes the victorious nation takes possession of the land for itself and distributes it to its own officers and men. In either of these eventualities, however, the old husbandman remains tied to the soil that he used to cultivate and he is forced into a new form of slavery regulated by laws of varying degrees of severity: the new masters must undertake military service and pay tribute as their condition of tenure. In still other cases, the conquering nation reserves for itself the ownership of the land of the conquered and distributes only the usufruct to its captains on these same conditions. Nearly always circumstances compel the conquerors to combine all these three methods of rewarding their soldiers and despoiling their victims.

From this moment we see new classes of men arising: the descendants of the ruling race, and those of the oppressed nation; an hereditary

nobility which must not be confused with the patrician class of a republic; a common people condemned to toil, dependence and humiliation without actually being slaves; and, finally, the glebe slaves, as opposed to the domestic slaves, whose less arbitrary servitude enables them to invoke the law against the caprice of their masters.

Here we see the origin of the feudal system, a curse not peculiar to our climate but to be found in nearly every part of the globe at a certain stage of civilisation, and in all cases where a single territory has been occupied by two peoples between whom victory in war has established hereditary inequality.

In short, despotism was the fruit of conquest. I mean here by despotism – which I distinguish from transient tyranny – the oppression of a whole nation by a single man who dominates it by opinion, by habit and above all by military force: that is, by an army directly subject to his arbitrary authority but whose prejudices must be respected, whose caprices must be flattered and whose pride and greed must be indulged. Protected by a large, hand-picked guard drawn from his own army, attended by the more powerful military captains, controlling his provinces through the services of generals whose word is law to the rank and file of the army, the despot reigns by terror. It is impossible for his oppressed subjects or his scattered generals, themselves often rivals for power, even to conceive the idea of taking arms against him without the certainty of being immediately overwhelmed by the forces at his disposal.

An uprising of the guard or a revolt in the capital can be fatal to a despot, but such events do not shake the institution of despotism itself. The general of a victorious army may destroy a dynasty consecrated by prejudice and establish a new one in its place, but he does so only to exercise the same tyranny himself.

During this third stage, nations who have escaped the misfortune of being either conquerors or conquered show us the simple, hardy virtues of agricultural peoples. They display the morals of heroic times, whose mixture of nobility and savagery, of generosity and barbarism is so attractive that it charms us to the point of admiration and even makes us regret the passing of those times.

But in the empires founded on conquest, we find an entirely different state of morals, exhibiting all the gradations of corruption and debasement into which despotism and superstition can lead the human race. It is there that we see the appearance of taxes on industry and trade; of imposts making the right to employ one's faculties as one wishes

something to be bought; of laws restricting one's choice of work and control over one's own property; of laws obliging children to follow their fathers' profession; of confiscations and atrocious tortures: in a word of everything that contempt for the human race has been able to invent in the way of arbitrary acts, legal tyrannies and superstitious atrocities.

It can be observed that in nations whose history is without great revolutions, the progress of civilisation is arrested at a primitive stage: but not before men have felt that need for new ideas and new feelings which is the prime mover in the progress of the human mind; have acquired that taste for the superfluities of luxury which is the spur of industry; and have become infected with that spirit of curiosity which eagerly penetrates the veil nature has drawn across her secrets. But almost everywhere, men, in their desperate efforts to escape from these imperious desires, have pursued and cultivated any physical means of providing themselves with a perpetual supply of new sensations: and in this search they have employed fermented liquors, distilled drinks, opium, tobacco, betel. Some at least of these habits are to be found in almost every nation. They provide pleasures that fill up whole days, or can be enjoyed at any hour, lifting the burden of time from off men's shoulders; pleasures that satisfy the need for distraction and stimulation, and that ultimately dull all desire and prolong the childhood and inactivity of the human mind. These same habits, which have been an obstacle to the progress of ignorant or enslaved peoples, are still, in enlightened countries, obstacles to the diffusion of the pure and equal rays of truth to all classes of men.

In the first two stages of society, we have seen that some degree of proficiency was achieved in certain crafts, those concerned with work in wood, stone, the bones of animals, the preparing of skins and the making of cloth; in this third stage we shall observe the beginnings of the more difficult arts of dyeing stuffs and making pottery and even a primitive form of metal work.

The progress of these arts would have been slow in isolated nations; but the communications that were established between them, however meagre, accelerated it. A new method, discovered by one people, was imitated by its neighbours. Conquests, which have so often destroyed the arts, in the beginning served to diffuse them and to advance their progress: although later they arrested their growth or contributed to their decline.

We see several of these arts developed to the highest degree of perfection by peoples amongst whom the degradation of all human faculties

has been brought about by the long influence of superstition and despotism. But if we observe even the finest achievements of this servile labour, we find no evidence of genius; their greatest works seem to be the slow and painful result of tedious routine, and we perceive side by side with an industry that astonishes us, traces of ignorance and stupidity which betray its origin.

In peaceful and sedentary societies, astronomy, medicine, the basic ideas of anatomy, some knowledge of plants and minerals, and the first elements of the study of natural phenomena were perfected, or rather attained maturity as a result of the mere passage of time, which increased the fund of observations and gradually led men to perceive almost automatically the general conclusions to be drawn from them.

Yet such progress was extremely uncertain and science might have remained for much longer in its early infancy if certain families, above all if particular castes, had not made use of it as the instrument of their power and glory.

Men had by this stage added the observation of man and society to that of nature. A small number of maxims of practical morality and politics were handed down from generation to generation. Particular castes laid claim to them and monopolised religious ideas, prejudices and superstitions. They were thus the heirs to those primitive groups or families of charlatans and sorcerers; but, to catch shrewder minds, they used more subtle means. Such knowledge as they possessed, the seeming asceticism of their lives and their hypocritical disdain for the customary objects of common human desire lent an air of authority to their magic, whilst their magic in turn consecrated in the eyes of the people their exiguous knowledge and their hypocritical virtue. From the beginning the members of these classes pursued two quite different aims with an almost equal enthusiasm: the one being the acquisition of new knowledge; and the other the use of what knowledge they possessed in order to deceive the people and dominate their minds.

Their wise men concentrated above all on astronomy and, as far as we can judge from the scattered remains of the monuments to their work, it seems that they attained the highest degree of knowledge possible without the use of the telescope or higher mathematical theory. Indeed, relying on a long series of observations man can arrive at a knowledge of the movements of the stars precise enough to allow him to calculate and predict celestial phenomena. These empirical laws, which are the easier to deduce the longer the period covered by the observations, did not lead

these astronomers to the discovery of the general laws of the system of the universe, but they were sufficient to satisfy men's needs, or their curiosity, and to augment the prestige of those who had taken upon themselves the exclusive right to instruct others. It also seems that we are indebted to these men for the ingenious idea of arithmetical scales, the happy discovery of the method of representing all numbers by a small set of signs, and of carrying out by very simple technical operations calculations that would be beyond the powers of our unaided intelligence. This is the first example of those methods which double the power of the human mind and by the aid of which it can advance its frontiers indefinitely.

But we do not find these people developing arithmetic beyond its primitive operations. Their geometry, which contained all that it was useful to know for land surveyance and astronomy, stopped short at the famous theorem that Pythagoras was later to introduce into Greece or discover anew. They left the theory of their machines to those who had to operate them; however, there are some stories, mixtures of truth and myth, that seem to suggest that they did in fact cultivate this branch of science in order to impress men with prodigies. The laws of motion and rational mechanics were of no interest to them. If they studied pharmacy and surgery and particularly the treatment of wounds, they neglected anatomy. Their botanical knowledge and their knowledge of natural history was limited to substances that could be used as remedies, and certain plants and minerals whose singular properties could serve their ends. Their chemistry, which consisted of a few simple techniques without any theory, method or analysis, was used only for making certain solutions; and they had a few secrets useful in medicine or the arts, and some that were suitable for producing wonders to dazzle the eyes of an ignorant multitude led by men no less ignorant than itself.

The progress of science was for them only a secondary aim, a means of perpetuating and extending their power. They sought truth only to spread error, and it is not strange that they found it so rarely.

However, this progress, slow and uncertain as it was, would have been impossible if there had not been men who understood the art of writing, the only method of establishing and maintaining a tradition, of communicating and transmitting knowledge as it grows. So hieroglyphics must have been one of their earliest inventions or else existed before the formation of the teaching castes. As their aim was not to dispel ignorance but to dominate men, they did not reveal all their knowledge to the people and what they did teach them was infected with error. They taught them

not what they believed to be true, but what it was in their own interests for them to know.

They disclosed nothing to them without an admixture of the supernatural, the holy and the heavenly, as a result of which they were regarded as superior to common humanity, clothed with a divine character, having received from heaven itself knowledge forbidden to other mortals.

They had two doctrines, one for themselves, the other for the people – and often, as they were divided into several orders, each of these reserved some mysteries for itself. All the lower orders were at once scoundrels and dupes, and this vast system of hypocrisy was known in its entirety only to a few adepts.

Nothing contributed more to the establishment of this double doctrine than the changes in language which were the work of time and of the impact of different tribes upon one another: for the initiates of the doctrine kept to themselves either their ancient language or that of some foreign tribe, and so possessed a language understood by them alone.

The earliest form of writing, in which objects were signified by a more or less exact pictorial representation either of the object itself or of an analogous object, gave way to a simpler form of writing in which pictorial representation was all but eliminated, and in which signs were already used in a purely conventional fashion; in this way the secret doctrine had its written, as it already had its spoken, language.

In the infancy of language nearly every word is a metaphor and every phrase an allegory. The mind grasps the figurative and the literal sense simultaneously. The word evokes the idea and at the same time the appropriate image by which the idea is expressed; but after a time the human mind becomes so accustomed to using the word in this figurative sense that by a process of abstraction it tends to fix on this alone and to lose sight of its original meaning: and so the secondary and metaphorical sense of the word gradually becomes its ordinary, normal meaning. The priests, who were the guardians of this original allegorical language, used it in their dealings with the people who were by now incapable of understanding it properly for, having used it so long in one way, they had come to think of this as the only way of doing so; with the result that when the priests used some expression and meant by it a quite simple truth, the people understood by it heaven knows what absurdity. The priests exploited the written word in a similar fashion, for when they used signs to represent some astronomical phenomena or some incident in the cycle of the seasons, the people saw only references to human beings, animals and monsters.

So, for example, the priests in their meditations almost universally developed a metaphysical system based on the idea of a vast eternal Whole: of which all created beings were but parts and of which all observed changes in the universe were so many various modifications. For them the heavens consisted merely of clusters of stars sown in space, of planets describing their various revolutions and of other purely physical phenomena that were the result of the configurations of these astronomical bodies. The priests gave names to these constellations and planets and to the fixed and the moving stars in order to plot their positions and their motion and to explain them. But their language, their manner of representing these metaphysical notions, these scientific truths, whether in the spoken or in the written word, suggested to the minds of the people the wildest system of mythology and laid the foundations of the most absurd beliefs, the most ridiculous rituals, the most shameful or barbarous practices.

Such is the origin of almost all known religions: which were subsequently to become encrusted with fresh myths, the work of the hypocrisy or the extravagance of their founders and their founders' proselytes.

These priestly castes gained control of education in order to train men to suffer more patiently the chains that had, as it were, become identified with their existence, so that they were now without even the possibility of desiring to break them. But if we wish to know the lengths to which these institutions can carry their destructive power over the human faculties, even without the help of superstitious terrors, we must, for a moment, turn our attention to China: for here we have a people who seem to have outstripped all the other nations in the arts and the sciences only to find themselves obliterated by them all in turn; a people who, for all their knowledge of artillery, have been unable to prevent themselves from being conquered by barbarians; a country where knowledge of the sciences is open to all and represents the only door to advancement, and yet where the sciences, being subject to absurd prejudices, are condemned to an eternal mediocrity; and where even the invention of printing has remained entirely useless for the progress of the human mind.

Men whose interest it was to deceive, must soon have wearied of the search for truth. They were satisfied with the docility of the people and, they thought they no longer needed new means of ensuring its continuance. Little by little they too forgot a part of the truth hidden under their allegories; they preserved of their old science only what was strictly necessary if they were to retain the confidence of their disciples, and they ended by becoming the dupes of their own myths.

From this moment onwards, all scientific progress was at an end; even a part of what former centuries had witnessed was lost to future generations, and the human mind, given up to ignorance and prejudice, was condemned to shameful stagnation in those vast empires whose uninterrupted existence has dishonoured Asia for so long.

It is only amongst the inhabitants of this continent that we can observe such a combination of civilisation and decadence. Among the other nations of the earth we find either those whose development has been arrested and who present us with the spectacle of mankind at the time of the infancy of the human race, or those who have been dragged forward by the course of events through the later stages of human development whose history it remains for us to outline.

At the time that we are considering, these same peoples of Asia had invented the alphabet and used it instead of hieroglyphics, after having apparently first used a method of writing in which a separate conventional sign was attached to each idea, the only writing known to the Chinese even to this day. From history and speculation, we can form some idea of how the change from hieroglyphics to this, as it were, intermediate art must have gradually come about, but there is no means of knowing at all accurately either in what country or at what time the alphabet was first used.

This discovery was finally transmitted to the Greeks, that race which has exercised such a powerful and happy influence over the progress of humanity, to whom genius opened all the ways of truth and whom nature had prepared and fate destined to be the benefactor and guide of every nation in every age, an honour which up to that time no other people had shared. One alone has since been able to conceive the hope of presiding over a new revolution in the destiny of the human race. Nature and the concatenation of events seem to have agreed amongst themselves to reserve this glory for her. But let us not seek to penetrate what the uncertain future still hides from our eyes.

The fourth epoch

The progress of the human mind in Greece up to the division of the sciences about the time of Alexander the Great

The Greeks, disgusted with those kings who, styling themselves the children of the gods, dishonoured humanity by their crimes and acts

of violence, organised themselves into a number of different republics, of which Lacedaemonia alone recognised hereditary rule. Even here, however, the authority of such rulers was limited by that of the other officers of state and they were as much subject to law as their citizens; and their power was further weakened by the division of royal state between the eldest sons of the two branches of the family of Heraclides.

The inhabitants of Macedonia, Thessaly and Epirus, who were bound to the Greeks by ties of common origin and common language, were ruled over by princes too weak and divided against each other to become the oppressors of Greece, but yet strong enough to protect her from Scythian invasions from the north.

In the west, Italy, divided into a number of small and isolated states, could not be any cause of fear to the Greeks. Practically the whole of Sicily and all the magnificent harbours of southern Italy were already occupied by Greek colonies, which while preserving friendly relations with their mother cities, nevertheless formed independent republics. Other colonies had been established on the islands of the Aegean Sea and along one stretch of the coast of Asia Minor. Ultimately, the only real threat to the independence of Greece and the freedom of its inhabitants was the prospect of this part of the Asiatic continent joining forces with the vast empire of Cyrus.

Tyranny lasted longer in some of these colonies than in others, notably in those that dated from before the expulsion of the royal families, but still it could nowhere be regarded as anything but a transitory and partial curse making for the unhappiness of the inhabitants of certain towns, but having no real effect upon the general spirit of the nation.

Greece had received her arts, some of her science, her religious system and her alphabet from the peoples of the East: the communications established between her and these peoples by means either of exiles from the East who had sought refuge in Greece or of Greeks who travelled in the Orient, brought to Greece the enlightenment and the errors of Asia and Egypt.

It was impossible in Greece for the sciences to become the occupation and preserve of any one particular caste. The task of the priests was limited to the offices of religion. As a result genius could display itself to the full without submitting to pedantic regulations or to the hypocritical system of a seminary. All men had an equal right to know the truth. All could search for it and disseminate it to all in its entirety.

It was this happy circumstance, even more than the enjoyment of political liberty, that allowed the human mind in Greece an independence which was a sure guarantee of the speed and extent of its future progress.

However, the scholars and scientists of Greece, who soon adopted the more modest name of philosopher, or friend of science and wisdom, lost themselves in the immensity of the ambitious scheme that they embraced. They wanted to penetrate the secrets of human and divine nature, of the origin of the world and the origin of the human race: they attempted to reduce the whole of nature to one principle, and all phenomena in the universe to one single law; they sought to incorporate in one rule of conduct all the obligations of morality and the secret of true happiness. So, instead of discovering truth, they erected systems: they neglected the observation of facts for the cultivation of the imagination, and, unable to submit their opinions to proof, they tried to defend them by casuistry.

Yet it was these same men who pursued geometry and astronomy with such success. Greece was indebted to them for the first principles of these sciences, some of which they discovered for themselves and some of which they introduced from the East, but introduced them not just as accepted opinion but as theories whose principles and proofs they had mastered. Out of the obscurity of these systems two felicitous ideas shine forth, ideas which will appear again in more enlightened ages.

Democritus regarded all phenomena of the universe as the result of the conjunction and movement of simple bodies of determinate and unchangeable form, and the universe as having received an initial impulse which generated a certain force which, though it might vary from atom to atom, always remains constant throughout the whole. Pythagoras asserted that the universe was governed by a harmony whose principles could be discovered by investigating the properties of numbers; in other words that all phenomena were subject to general calculable laws.

It is easy to recognise in these two ideas the bold systems of Descartes and the philosophy of Newton.

Pythagoras further discovered by meditation, or perhaps learnt from Egyptian or Indian priests, the correct disposition of the heavenly bodies and the true system of the world: and this he imparted to the Greeks. But this system was too much at variance with the evidence of the senses and too opposed to popular notions for the flimsy proofs on which it rested to carry real conviction. It remained an obscure doctrine buried in the heart of the Pythagorean school, and disappeared along with it, to reappear

towards the end of the sixteenth century, supported by sure proofs, which could then triumph over the natural repugnance of the senses and over the still more powerful and dangerous prejudices of superstition.

This Pythagorean school had spread chiefly in Magna educated Graecia, and there it educated legislators and intrepid champions of the rights of man before it succumbed to the onslaughts of the tyrants. One of them burned the Pythagoreans in their school; and this was doubtless sufficient reason for the survivors to abandon a name which had become too dangerous and to lay aside those methods which served only to arouse the wrath of the enemies of liberty and reason, even if it did not induce them to abjure philosophy and forswear the cause of the people.

One of the essentials for any sound philosophy is to produce for every science an exact and precise language in which every symbol represents some well defined and circumscribed idea; and so by rigorous analysis to guarantee that every idea is well defined and circumscribed.

The Greeks, however, exploited the vices of ordinary language in order to play upon the meanings of words, to confuse the mind with paltry equivocations and to derange it by using the same sign on different occasions to express different ideas. This casuistry at once gave an edge to men's minds and also sapped their strength by involving them in battles against chimerical difficulties. This philosophy of words, which attempted to bridge those gulfs before which human reason seemed to be brought to a halt by an obstacle superior to its powers, in no way furthered the immediate progress of the human mind, although it prepared a way for its future advance: an observation that we shall later have occasion to repeat.

It was this attachment to questions that are perhaps forever insoluble, it was this infatuation with projects solely on the score of their importance or impressiveness with no thought for whether there exists any possible means of fulfilling them, it was this desire to establish theories before assembling facts and to construct the universe before learning how to observe it, that was the error that, though excusable enough, from the very beginning retarded the progress of philosophy. Socrates, in his war against the Sophists, covering with ridicule their vain but subtle arguments, cried out to the Greeks to recall to earth a philosophy which had lost itself in the clouds. He did not despise astronomy or geometry or the observation of natural phenomena, nor did he have the wrong and childish idea of confining the human mind to the study of morals alone. On the contrary, it was to his teaching and to that of his disciples that

we owe the progress of the mathematical and physical sciences. In the various comedies in which he is ridiculed, the reproach that gives rise to the largest number of quips is that he cultivated geometry, studied meteors, drew maps and made experiments with burning glasses – of whose great age we should indeed be ignorant if it were not for a farce of Aristophanes. All that Socrates wanted to do was to warn men to confine themselves to those things that nature has placed within their reach, to make sure of every step before attempting a new one, and to study what lay around them before embarking for strange and unfamiliar lands.

The death of Socrates is an important event in human history. It was the first crime that marked the beginning of the war between philosophy and superstition, a war which is still being waged amongst us between this same philosophy and the oppressors of humanity and in which the burning of the Pythagorean school was such a significant event. The history of this war will occupy one of the most important places in the picture that it still remains for us to trace.

It was with a heavy heart that the priests observed how mankind in its efforts to perfect its own powers of reasoning and to trace everything back to origins, discovered the full absurdity of their dogmas, the full extravagance of their ceremonies, the full imposture of their oracles and miracles. They were afraid that these philosophers would unmask them before the pupils who attended their schools; that such knowledge would then be transmitted to anyone who, in pursuit of authority or prestige for himself, felt the necessity to cultivate his mind; that as a result priestly dominion would soon hold sway only over the most vulgar of the people, and that in the end even they would be undeceived. Hypocrisy in terror hastened to accuse the philosophers of impiety towards the gods so that they would be unable to teach the people that these gods were the work of the priests. The philosophers thought to escape persecution by adopting, like the priests, the use of a double doctrine, whereby they confided only to tried and trusted disciples opinions that would too openly offend popular prejudice.

But the priests presented even the most simple physical truths to the people as blasphemies. They persecuted Anaxagoras for having dared to say that the sun was bigger than the Peloponnese. Socrates could not escape their onslaught, for by this time there was no Pericles left in Athens to come to the defence of genius and virtue. And, besides, Socrates was even more culpable. His hatred of the Sophists and his zeal in recalling errant philosophy to more useful occupations showed the priests that

truth alone was the object of his search and that, far from desiring to impose a new system upon men and to subject their imagination to his own, he wished only to teach them how to think for themselves. And of all crimes it is this that priestly arrogance knows least how to forgive.

It was at the foot of Socrates' tomb that Plato imparted the lessons that he had learnt from his master.

His delightful style, his brilliant imagination, his pleasant or dignified imagery, the little touches, deft and lively, that in his Dialogues banish all dryness from philosophical discussion, allied to the maxims of a pure and gentle morality which he disseminates there, and the skill with which he makes his people act always in character – all these felicities, which time and changing belief have not withered, must doubtless justify indulgence for those philosophic dreams which too often form the basis of his work and for the abuse of words with which his master had so often reproached the Sophists and from which he had been powerless to preserve the greatest of his disciples.

When we read his Dialogues, it seems astonishing that they are the work of a philosopher who in an inscription over the door of his school forbade anyone who had not studied geometry to enter there, and that the man who introduces so boldly such barren and frivolous hypotheses was the founder of a sect in which for the first time the principles of human knowledge were subjected to rigorous examination, so rigorous indeed that some that would be respected by a more enlightened reason were ruthlessly rejected.

But the contradiction disappears when we remember that Plato never speaks in his own name; that his master Socrates always expresses himself with the modesty of doubt; that the various systems are presented in the names of those who were, or were believed by Plato to be, their authors; that these same Dialogues are also a seminary for Pyrrhonism; and that Plato reveals at once the bold imagination of a learned man who likes to construct and elaborate brilliant hypotheses, and the reserve of a philosopher who gives rein to his imagination without allowing himself to be completely carried away by it, since his reason, fortified by salutary doubt, is well able to defend itself against even the most seductive flights of fancy.

The various schools where the doctrine and more particularly the principles and methods of an original thinker were perpetuated – though never to the point of regarding him with docile servility – served the further purpose of uniting in bonds of free brotherhood men engaged in

penetrating the secrets of nature. If the master's own opinions too often enjoyed an authority that properly belongs to reason alone and if in this way the institution retarded the progress of knowledge, it also served to diffuse its findings more quickly and over a greater area than would otherwise have been possible at a time when printing was unknown and manuscripts extremely scarce; these great schools, whose fame attracted pupils from every part of Greece, were the most powerful means of engendering a taste for philosophy and of propagating new truths.

In their rivalry they fought each other with the animosity of sectarianism, and often the interests of truth were sacrificed to the success of some particular doctrine in which the pride of every member of the sect was involved. The selfish desire to win converts corrupted the nobler desire of leading men to the truth. And yet this rivalry was also useful in that it kept men's minds active. The mere spectacle of such disputes and the interest aroused by these intellectual battles introduced a large number of people to the study of philosophy whom the mere love of truth would never have enticed away from business, or pleasure, or perhaps mere idleness.

Since these schools and sects, which the Greeks had the sense never to introduce into public life, remained entirely free, and since anyone could at will open a new school or form a new sect, there was no fear of that enslavement of reason which has been such an insurmountable obstacle to the progress of the human spirit in most other countries.

We shall show what influence these philosophers exercised over the thought of Greece, her morals, laws and government; and how this influence arose largely because they never had nor wanted to play any part in political life, because, whatever sect they belonged to, they made the voluntary withdrawal from public affairs a maxim of conduct, because they affected to distinguish themselves from other men as much by their lives as by their opinions.

As we trace the picture of these different sects, we shall be occupied less with their systems than with the principles of their philosophy, less in looking for an exact knowledge of the various absurd doctrines, which are anyhow too often hidden from us by a language that has become almost unintelligible, and more in showing what general mistakes led them astray and in discovering their origin in the natural progress of the human mind.

We shall concern ourselves especially with an analysis of the applied sciences and the gradual perfection of their methods.

At this period philosophy cast its net over all the sciences except medicine, which had already become a separate study. The writings of Hippocrates will show us what was the existing state of that science and of those sciences with which it was naturally connected, but which had at this time no independent existence of their own. The mathematical sciences had been successfully cultivated in the schools of Thales and Pythagoras. Nevertheless, they had not progressed far beyond the point that they had reached in the seminaries of the East. But after the founding of the Platonic school they broke down the barrier that had been imposed by the attempts to limit them to immediate and practical uses. This philosopher was the first to solve the problem of doubling the cube truly in a continuous movement, but by a mechanical construction, an ingenious method, and one of great rigour. His early disciples discovered conic sections and determined their more important properties: and in doing so, they opened up an immense horizon to genius towards which it will be able to struggle forward until the end of all time, but which will recede from it with every step that it takes forward.

The progress of the political sciences in ancient Greece is not to be attributed entirely to philosophy. In those small republics, so jealous of their freedom and their independence, there was an almost universal assent to the idea of conferring on one man alone, not the power to make laws but the task of formulating them and presenting them to the people, who would scrutinise and sanction them.

Thus, the people imposed work on the philosopher when his virtues or wisdom had gained their confidence, but they did not endow him with any authority. He exercised alone and by himself what has come to be called the legislative power. The baneful custom of using superstition as a prop for political institutions has too often sullied the execution of a scheme so well calculated to give the laws of any country the systematic unity they need if they are to be readily and smoothly executed and to prove enduring. However, politics did not yet possess sufficiently constant principles for people not to be afraid of seeing the legislators introduce their prejudices and passions into the practice of law-making.

For at that time the legislator did not think it his task to set up a society of free and equal men, based on reason, on the rights that all men have received in equal degree from nature and on the maxims of universal justice; he thought that he had discharged his duty when he had made laws that would allow the members of a hereditary society to preserve

their freedom, to live without fear of injustice and to defend themselves against any external threat to their independence.

As it was assumed that laws, which were nearly always tied to religion and consecrated by oaths, would last forever, less interest was taken in providing a country with the means of peaceful reform than in preventing the alteration of fundamental laws, and in ensuring that changes in detail would not debase the system nor corrupt its essence. People looked for institutions that would exalt and encourage love of one's country, and this was taken to include love of its laws and even of its customs: they looked for some way of organising the powers within the state that would ensure the execution of the law against the indifference or corruption of the magistrates, the influence of powerful citizens and the turbulence of the masses.

The rich, who alone were in a position to acquire knowledge, could seize power and oppress the poor, and so force them into the arms of a tyrant. The ignorance and fickleness of the common people and their jealousy of powerful citizens could provide these latter with both the desire and the means to establish an aristocratic despotism or to deliver the enfeebled state to the ambitions of its neighbours. Forced to preserve themselves at one and the same time from these two dangers, the Greek lawgivers had recourse to a variety of devices, some more, some less fortunate in their outcome but all of them imbued with that subtlety, with that wisdom from now onwards so characteristic of the general spirit of the nation.

There is hardly to be found in any modern republic or in any of those schemes devised by philosophers an institution of which the Greek republics did not provide the model or supply an example. So the Amphictionic league and the confederacies of the Etolians, the Arcadians and the Achaeans show us federal constitutions of a more or less closely knit type: and amongst the various peoples who were linked by ties of common descent and language, and similar habits, opinions and religious beliefs, there were established a less barbaric law of nations and more liberal rules of trade.

The mutual relations between agriculture, industry and trade and the constitution of the state and its legislation, and their influence over its prosperity, its power and its liberty could not escape the attention of a clever, active people who busied themselves with matters of public interest: and so we observe the rudiments of that comprehensive and useful art known today as political economy.

Mere observation of actual governments was enough to make politics into quite an extensive science. And so even in the writings of the philosophers it appears more as a science of facts, as, so to say, an empirical science, than as a genuine theory founded on general principles which are drawn from nature and acknowledged by reason. This is the point of view from which the political ideas of Aristotle and Plato can most satisfactorily be considered if we are to understand them correctly and appreciate them to the full.

Nearly all the institutions of the Greeks assume the existence of slavery and also the feasibility of bringing together the whole body of citizens in one public place. If we are to judge of the practical value of these institutions and, above all, to assess their relevance to the great nations of the modern age, we must not for a moment lose sight of these two important differences. We cannot, however, reflect upon the former without the painful thought that even the most perfect arrangements then known had as their object the liberty or the happiness of at most only half of the human race.

For the Greeks education was an important part of politics. It formed men much more for their country than for themselves or for their family. This principle cannot be adopted for any but small populations where there is better justification for assuming the existence of a national interest that is different from the interests of the whole of humanity. It is practicable only in countries where the really hard work in agriculture and in the arts and crafts is carried out by slaves. This education was virtually limited to physical exercises, the principles of morality and the habits proper to arousing a jealous patriotism: everything else could be learnt without restriction in the schools of philosophers or rhetoricians and in the studios of artists – and this liberty is yet another cause of the superiority of the Greeks.

In their politics, as in their philosophy, we can discover a general principle to which history provides only a very small number of exceptions. This is the habit of seeing law not so much as an instrument for removing the causes of evil as a means of eradicating its effects by playing those causes off one against another; the practice, in government, of turning prejudices and vices to good account rather than trying to dispel or repress them; a greater interest in depriving man of his true nature, in exalting and inflaming his imagination than in perfecting and purifying those inclinations and predilections which are the necessary product of his moral constitution – all these mistakes arising from the more general

mistake of identifying the natural man with the product of the existing state of civilisation, with, that is, man corrupted by prejudices, artificial passions and social customs.

This observation is all the more important, and the mistake is one whose origin it is even more necessary to trace so that we may eradicate it effectively, since it has been transmitted down to our own age, and since it still only too often corrupts our morality and our politics.

If we compare the legislation, and especially the form and the rules of judgement in Greece with those existing amongst the Orientals, we shall see that with the latter laws were a yoke under which people were bound into slavery, whereas with the former they were the conditions of a common pact between man and man; for the former the purpose of legal forms was that the will of the master should be accomplished, for the latter that the freedom of the citizens should not be crushed; with the one, laws were made for the benefit of him who imposed them, with the others, for the benefit of him who had to submit to them; with the one, people were made to fear the law, with the others, they were taught to respect it. These differences we shall find persisting into the modern age, and separating the laws of free peoples from the laws of slave populations. And, finally, we shall see that in Greece, man had at least a feeling for his rights even if he was not as yet fully cognizant of them, not as yet able to fathom their nature, range and full extent.

At this stage, marked for the Greeks by the dawn of philosophy and the first advances in the sciences, the fine arts attained a degree of perfection that no other people had known before and that scarcely any has since achieved. Homer lived at the time of the dissensions that accompanied the fall of tyrants and the formation of republics. Sophocles, Euripides, Pindar, Thucydides, Demosthenes, Phidias and Apelles were contemporaries of Socrates or Plato.

We shall sketch the progress of these arts and discuss its cause, distinguishing between what can be seen as the perfection of art itself and what is due only to the happy genius of the artist; a distinction which should remove the narrow limits that have been set to the process of perfection in the fine arts. We shall show the influence that forms of government, systems of law and the spirit of religious worship exercised over their progress, and we shall try to discover how much they owed to philosophy and how much philosophy owed to them.

We shall reveal how liberty, the arts and enlightenment have helped towards the softening and improvement of manners; how the vices of

the Greeks, which are so often attributed to the very progress of their civilisation, were those of a coarser age; and how enlightenment and the cultivation of the arts tempered them when they could not destroy them utterly. We shall prove that the eloquent declamations made against the arts and sciences are founded upon a mistaken application of history, and that, on the contrary, the progress of virtue has always gone hand in hand with that of enlightenment, just as the progress of corruption has always followed, or heralded, its decadence.

The fifth epoch

The progress of the sciences from their division to their decline

It was in Plato's lifetime that his pupil Aristotle opened a rival school of his own in Athens itself.

Not only did he include all the sciences in his teaching, but he also applied philosophical method to poetry and rhetoric. He was the first man with the courage and imagination to see that this method could be applied to everything attainable by human intelligence, since human intelligence, always using the same faculties, must always be subject to the same laws. As the scope of his plan increased, the greater need did he feel to separate its various provinces and to determine more precisely the frontiers of each. After him most philosophers, even entire schools of philosophy, have restricted themselves to one or other of these provinces.

The mathematical and physical sciences formed one large division by themselves. As they are based on calculation and observation and as their findings are indifferent in just those matters on which the various sects were divided, they became separated from philosophy, over which the various sects still reigned. They became the preserve of learned men who were almost without exception wise enough not to embroil themselves in the disputes between the various schools, disputes in which everyone competed only for fame and which were better calculated to promote the transient renown of particular philosophers than to contribute to the progress of philosophy itself. The word *philosophy* soon came to signify only the general principles governing the world order, metaphysics, dialectic and the moral sciences of which politics was a part. Fortunately, this division preceded the time when Greece after long struggles lost her liberty.

The sciences found a refuge in the capital of Egypt, which the despotic rulers of that city would perhaps have refused to philosophy. Princes who derived a large proportion of their wealth and power from the traffic which stretched from the Mediterranean to the Asiatic Ocean, were anxious to encourage those sciences which were useful for navigation and commerce. These sciences thus escaped that more rapid process of decline that overtook philosophy, whose splendour faded with the disappearance of liberty. The despotism of the Romans, a people who were indifferent to the progress of knowledge, did not reach Egypt until very late, by which time Alexandria had become necessary for Rome's survival. Since this town was already as much the metropolis of the sciences as it was the capital of commerce, it was by itself able to safeguard that sacred flame; the size of its population, its wealth, the great influx of foreigners and the establishments founded by the Ptolemies, which the conquerors saw no reason to destroy, were enough to assure it the power to do so.

The Academic sect in which, from the earliest days, mathematics had been cultivated and which virtually confined its philosophical teaching to proving the utility of doubt and indicating the narrow limits of certainty, became the sect of scholars: and, as this doctrine could not alarm the despots, it dominated the school of Alexandria.

The theory of conic sections and the method of using them in the construction of geometric loci or in the solution of problems, and the discovery of some other curves, extended the scope of geometry which had hitherto been narrow. Archimedes discovered the quadrature of the parabola and calculated the surface of the sphere, and these were the first steps in that theory of limits which determines the ultimate value of a quantity or the value that the quantity ever approaches but never reaches, and in the science that teaches us how to find the ratios of vanishing quantities and how to progress from the knowledge of these ratios to determine those of finite magnitudes; in the calculation, in short, to which the moderns have, with more vanity than accuracy, given the name of infinitesimal calculus. Archimedes was the first to determine the ratio between the diameter of a circle and its circumference and to show how to obtain values for it approximating closer and closer to the true one; he also discovered the method of approximation, a happy contribution to the small stock of known methods and to the meagre condition of the science itself.

We can consider him in some measure the creator of rational mechanics. We are indebted to him for the theory of the lever and the discovery of the principle of hydrostatics, according to which the weight of a body placed in a liquid is reduced by an amount equal to the weight of the mass that it has displaced.

The screw that is named after him, his burning-mirrors, his remarkable inventions during the siege of Syracuse attest to his skill in mechanics, a science which had been totally ignored because it had never proved possible to put it to any practical use. These great discoveries, these new sciences place Archimedes amongst those happy men of genius whose lives are landmarks in the history of mankind and whose existence seems to be a generous gift of nature.

We find the beginnings of algebra in the school of Alexandria; that is to say, we find the calculation of magnitudes considered simply as such. The nature of the problems set and solved in the book of Diophantus required that numbers should be regarded as having a general value which was indeterminate and subject only to certain conditions. But this science had not then, as it has today, its own symbols and correct methods and technical operations. General values were designated by words and the solutions to problems were discovered and developed only by a long chain of reasoning.

Certain observations made by the Chaldeans were sent back to Aristotle by Alexander and these gave an impetus to the progress of astronomy. The most remarkable achievements in this field were due to the genius of Hipparchus. If, after him in astronomy, as after Archimedes in geometry and mechanics, there were no discoveries, no contributions that changed, as it were, the whole face of the science, both continued to perfect themselves for a long while, to expand and to be supplemented by a great deal of detailed research.

In his history of animals, Aristotle had formulated the principles and given an invaluable model of the correct way of making precise observations and systematic descriptions of natural objects, and the method of classifying observations and drawing general conclusions from them.

Plant and mineral history were studied on the lines that he had laid down, but with less precision and from a narrower and less philosophical point of view. The progress of anatomy was very slow, not only because religious prejudices were opposed to the dissection of corpses, but because popular opinion regarded contact with them as a kind of moral defilement.

The medicine of Hippocrates was a mere science of observation, which had so far led to nothing but purely empirical methods. The spirit of sectarianism and a taste for hypotheses soon infected the doctors, but if their mistakes were more numerous than their discoveries, if their prejudices or systems did more harm than their observations did good, it is not to be denied that during this period medicine made some real progress, small though it was.

Aristotle did not carry into physics either the exactitude or the wise caution that characterise his history of animals. He paid tribute to the customs of his age and to the spirit of the school, in disfiguring physics with those hypothetical principles which in their vague generality explain everything with facility because they can explain nothing with precision.

Moreover, observation by itself is not enough; what is necessary is to experiment, and this in turn requires instruments. It seems as though not enough facts had been collected, and as though those that had been collected had not been examined in enough detail for there to be any felt need, any idea of this method of asking questions of nature and forcing her to answer them. At this period, therefore, the history of the progress of physics has nothing to show except the amassing of a small number of known facts, all due to chance or to observations made in the exercise of the various arts rather than to the research of scientists. Hydraulics and especially optics yielded a somewhat less sterile harvest, but even here it was more a case of the compilation of observed facts, observed because they forced themselves on man's attention, than of theories or physical laws discovered by experiment or arrived at through meditation.

Agriculture had not gone beyond matters of simple routine and a few rules which the priests transmitted to the people, and in doing so, corrupted by superstition. It became an important and respected art with the Greeks and even more with the Romans, an art whose rules and precepts were matters of great interest even to the most learned men. These anthologies of observations, set out with some precision and gathered with some discernment, were able to enlighten practice and diffuse useful methods, but men were still a long way away from the age of experiment and of mathematical observation.

The mechanical arts came to be connected with the sciences; philosophers examined the various processes, tried to discover their origin, studied their history and aimed at producing an account of the methods and achievements in this field in different countries, at collating them and handing them down to posterity.

So we see Pliny including man, nature and the arts in the huge plan of his *Natural History*, an invaluable inventory of all the existing riches of the human mind. Pliny's claim to our gratitude is not affected by the reproach that can justifiably be brought against him, that he accepted with too little discrimination and too much incredulity anything that the ignorance or lying vanity of chroniclers and travellers offered up to his insatiable greed for omniscience.

With the decadence of Greece, Athens, who in the days of her power had honoured letters and philosophy, was now in her turn indebted to them for her capacity to preserve a little longer some vestiges of her ancient glory. It was no longer at her tribunal that the destinies of Greece and Asia were weighed; but it was in her Schools that the Romans learnt the secrets of eloquence; and it was at the foot of Demosthenes' lamp that the first of the Roman orators was formed.

The Academy, the Lyceum, the Stoa and the gardens of Epicurus were the cradle and the principal school of the four sects that disputed the empire of philosophy.

In the Academy it was taught that nothing is certain; that in no matter can man attain true certainty or even perfect understanding; finally – and it is difficult to go further – that he cannot even be sure of the impossibility of knowing anything, and that he must doubt even the necessity of doubting everything. The opinions of other philosophers were expounded and defended and disputed here, but merely as so many hypotheses proper for exercising the mind and for impressing on man, by the uncertainty that always attended these disputes, the vanity of human knowledge and the absurdity of the dogmatic confidence of other sects.

But this method of doubt which reason sanctions as long as it encourages us merely to avoid arguments about words to which we can attach no clear and precise ideas, to proportion our belief in a proposition to its degree of probability and to determine for the various species of knowledge the limits of certainty to which we can attain – this form of doubt, if it extends to ascertained truth, if it attacks the principles of morality, becomes either stupidity or madness, it favours ignorance and corruption, and it is to these lengths that the Sophists went who succeeded the first disciples of Plato in the Academy.

We shall describe the progress of these sceptics and the cause of their errors; we shall try to discover how much of what is exaggerated in their doctrine should be attributed to their passion for attracting attention to themselves by holding grotesque opinions; we shall notice that however

adequately they may have been refuted by the instincts of the rest of humanity and by the principles whereby they regulated the conduct of their own lives, they were never either properly understood or properly refuted by philosophers.

However, this exaggerated scepticism did not carry with it the whole of the Academy. On the contrary, the doctrine which was drawn from Plato's Dialogues, that there is an eternal idea of the just, the beautiful and the virtuous, independent of the interests of men, of their conventions, even of their existence, an idea, which, once it is imprinted in the soul, becomes for us the principle of duty and the rule of conduct, continued to be expounded in his school, and served as a foundation for the teaching of morality.

Aristotle understood no better than his masters the art of analysing ideas; that is to say, the art of working back stage by stage to these simple ideas out of which more complex ideas are formed by the process of combination, of tracing the origin of these simple ideas, and so of following the progress of the mind and the development of its faculties. His metaphysic therefore was like that of other philosophers, only a vague doctrine, founded at times on an abuse of words, at times on mere hypotheses. Even so we owe him the important truth, the first step in the science of the human mind, that *even our most abstract, as it were, our most purely intellectual, ideas have their origin in our sensations*. He did not, however, develop this discovery. It was more the insight of a man of genius than the result of a series of observations analysed with precision and combined to bring forth a general truth. And so it required another twenty centuries before this seed, thrown on barren ground, bore useful fruit.

In his logic Aristotle reduced all proofs to a series of arguments cast in a syllogistic form; he further divided all propositions into four exhaustive classes; he learnt how to identify out of all the possible combinations of propositions of these four classes taken in threes, those which correspond to valid syllogisms and do so necessarily; in this way, we can judge the soundness or viciousness of an argument merely by knowing to which combination it belongs. The art of correct reasoning is thus somehow dependent on technical rules.

This ingenious notion has remained useless up to the present time; but perhaps it may one day be used as the first step towards that perfection which the art of reasoning and dispute seems still to achieve.

According to Aristotle every virtue occupies a position between two vices of which the one is its total absence, the other its excess. Each virtue

is therefore merely one of our natural inclinations, which nature forbids us either to resist or to obey too fervently. This general principle may have been suggested to him by one of those vague ideas of order and conformity which were so common in philosophy at that time; but he verified it by an appeal to the vocabulary actually used by the Greeks to describe the virtues.

About the same time two new sects, which made morality dependent on two at least apparently opposed principles, competed for men's allegiance: they exerted an influence far beyond the limits of the Schools, and hastened the downfall of Greek superstition, only unfortunately for it to be replaced by another superstition, gloomier, more pernicious, a more bitter enemy to enlightenment.

The Stoics saw virtue and happiness as consisting in the possession of a soul that was equally insensible to joy and pain, that was freed from every passion, that was superior to all fears and weaknesses and that knew no true good but virtue and no real evil but remorse. They believed that Man had the power to raise himself to this height if he had a strong and inflexible will to do so, and that then, independent of fate, always master of himself, he would be equally impervious to vice and misery. One spirit animates the world and is everywhere present – if indeed it be not all things itself, if anything at all exist apart from it. Human souls are emanations of it. The soul of the wise man, which has not sullied its original purity, is, at the moment of death, reunited with this universal spirit. Death would thus be good, were it not that the wise man who follows nature, who is hardened against all that the vulgar call evils, finds even greater dignity in regarding it as something indifferent.

Epicurus regarded happiness as the enjoyment of pleasure and the absence of pain. Virtue consists in following one's natural inclinations, albeit knowing how to purify them and direct them. Temperance, whereby we prevent pain and preserve our natural faculties at their full strength and so secure for ourselves all the enjoyment prepared for us by nature; abstention from violent or discordant passions which torment and lacerate the heart once it is given over to their bitter and angry sway; the cultivation, instead, of the gentle and tender affections, indulgence in the pleasures of benevolence; and the preservation of the purity of one's soul so as to avoid shame and remorse which are the punishment of crime, so as to enjoy the delightful feeling that is the reward of good deeds – this is the road that leads to both happiness and virtue.

Epicurus saw the universe as a mere collection of atoms of which the various conjunctions are subject to necessary laws. The human soul itself is one of these conjunctions. The atoms of which it is composed are united the moment the body begins to live and are dispersed the instant that it dies, to be merged again into the common mass, and ultimately to enter into new conjunctions. Not wishing to offend popular prejudice too directly, Epicurus admitted the gods into his universe, but his gods, indifferent to all human actions, unconcerned with the order of the universe, and subject like other beings to the general laws of its mechanism, were somehow a mere appendage to this system.

The hard, the proud and the unjust sheltered behind the mask of stoicism; the voluptuous and corrupt often insinuated themselves into the gardens of Epicurus. People denounced Epicurean principles, accusing them of setting up crude sensual pleasures as the supreme good: and they ridiculed the claims of the sage Zeno, who, a slave, racked by gout, turning the millstone, was nevertheless happy, free and sovereign.

The philosophy that claimed to rise above nature and that wished only to obey her; the morality that recognised no other good but virtue and that placed happiness in pleasure – both these different outlooks led to the same practical consequences, although they set out from such contrary principles and used such different language. This *resemblance* between the moral precepts of all religions and all philosophical sects suffices to prove that their truth is something independent of the dogmas of these various religions and the principles of these different sects. That it is to the moral constitution of man that we must look for the foundations of his duties and the origins of his ideas of justice and virtue: a truth to which the Epicureans were closer than any other sect, and it is perhaps for this reason more than any other that they drew down on themselves the hatred of hypocrites of all classes for whom morality is but an object of trade for whose monopoly they contest.

The fall of the Greek city-states brought about that of the political sciences. After Plato, Aristotle and Xenophon, they almost ceased to be included in philosophical systems.

But it is now time to speak of an event that changed the fate of a great part of the world and exerted an influence over the progress of the human mind that has lasted to our own day.

Except for India and China, Rome had extended her dominion over all the nations where the human mind had emerged from the helplessness

of its early infancy. She gave laws to all countries where the Greeks had taken their language, their sciences and their philosophy. All these nations tied by chains of defeat to the foot of the Capitol, existed only at the will of Rome and for the passions of her leaders.

A true picture of the constitution of this powerful city would not be alien to the purpose of this book. We shall see the beginning of the hereditary patriciate and the ingenious arrangements that were used to give it greater stability and strength by rendering it less odious; we shall see a people skilful in the use of arms, but hardly ever employing them in domestic quarrels, combining real strength with lawful authority and yet scarcely defending themselves against a proud Senate, who chained them by superstition and dazzled them by the brilliance of its victories; a great nation, the plaything in turn of its tyrants and of its champions, and for four centuries the patient dupe of a system of voting which was absurd, but sacrosanct.

We shall see this constitution which was made for a single town, change its nature without changing its form when it was necessary to extend it over a great empire; how, able to maintain itself only by continual warfare, it was soon destroyed by its own armies; and how in the end the sovereign people, degraded by the habit of being fed at the public expense and corrupted by the largesse of the senators, sold to one man the illusory remains of its useless freedom.

The ambition of the Romans led them to turn to Greece for masters in rhetoric, for with them this art was one of the roads to fortune. That taste for rare and refined enjoyment, that desire for new pleasures, which is born of wealth and idleness, made them aspire to the arts of the Greeks and even the conversation of their philosophers. But philosophy, the sciences, the graphic arts were always plants foreign to Roman soil. The greed of the victors filled Italy with the masterpieces of Greece, looted from the temples and the cities which they adorned and from the peoples whom they consoled in their slavery; but they never dared set up the work of any Roman beside them. Cicero, Lucretius and Seneca wrote eloquently on philosophy in their own language, but the philosophy was Greek; and in order to reform the barbaric calendar of Numa, Caesar was obliged to employ a mathematician from Alexandria.

Rome, rent for so long by the factions of ambitious generals, embroiled in new campaigns of conquest or agitated by civil discord, at last fell from a state of restless freedom into an even stormier one of military despotism. What place then could the tranquil reflections of philosophy or the

sciences find amongst captains who aspired to tyranny, or, a little later, under despots who feared the truth and hated ability and virtue alike? Moreover, philosophy and the sciences are necessarily neglected in all countries where there is an honourable occupation leading to wealth and position that is open to anyone who has a natural inclination for study; and such in Rome was the career of the law.

When, as in the East, laws are tied to religion, the right to interpret them becomes one of the strongest bulwarks of priestly tyranny. In Greece they had been enshrined in the code that was given to each town by its lawgiver; they had been linked to the spirit of the constitution and the established government. They underwent few changes. Often the magistrates abused them; particular injustices were frequent; but the vices of the laws never led to a regular and coldly calculated system of brigandage. In Rome, where no other authority than tradition and custom had been known for a long period of time; where each year the judges announced the principles on which they would decide all cases for the period of their magistrature; where the first written laws were merely a compilation of Greek laws, edited by the decemvirs, men more concerned to retain their power than to honour it in the form of sound legislation; where, in the period in question, laws, dictated alternately by the Senate and by the people, followed on each other in rapid succession and all the time were being rescinded or confirmed, improved or worsened by new declarations, it was not long before the multiplicity, complexity and obscurity of the laws, the necessary result of a fluid language, made the study and knowledge of them a science apart. The Senate, profiting from the popular respect for ancient institutions, soon felt that the privilege of interpreting the laws was almost equal to the right to make new ones, and so packed itself with legal experts. The power of this group outstripped that of the Senate itself; it grew and grew under the emperors and became ever greater as the laws became more fanciful and inchoate.

Jurisprudence is then the only new science that we owe to the Romans. We intend to trace its history, since it is relevant to the progress of the science of legislation amongst the Moderns, and, more particularly, to the obstacles in the way of this progress.

We shall show how the Romans' respect for positive law helped in the beginning to keep alive some notion of the natural rights of man, but later worked against the growth and propagation of these same ideas: and how we owe to Roman law a small number of useful truths, but a greater number of tyrannical prejudices.

The mildness of penal laws under the Republic deserves our scrutiny. In some measure they made the life of a Roman citizen sacrosanct. The death penalty could not be imposed upon him without invoking those extraordinary powers announcing public calamities and the fatherland to be in danger. The entire people could be called upon to judge between one man and the Republic. The Romans realised that with a free people temperance of this kind was the only way to prevent the degeneration of political dissension into bloody massacre; they wished to correct by the humanity of the law the ferocious manners of the populace – a populace which even in its games spilt the blood of slaves – and as a result, up to the time of the Gracchi, there is no country that offers us the same spectacle of endless violent disturbances at such little cost in the way of crime and bloodshed.

No Roman work on politics has come down to us. That of Cicero on the laws was really nothing but an embellished series of extracts from certain Greek writings. Social science could not have been rendered natural or been perfected amongst the convulsions of dying liberty. Under the despotism of the Caesars its study would have seemed only a conspiracy against their power. Indeed, nothing better proves how unknown it was to the Romans than the situation, still unique in history, of an uninterrupted succession of five emperors, from Nerva to Marcus Aurelius, all uniting virtue, talent, enlightenment, love of glory and a zeal for the public good, without one of them instigating one single institution expressive of any desire to curb despotism or prevent revolution or weld together by new ties the various parts of that huge mass whose imminent dissolution was everywhere apparent.

The union of so many peoples under one domination, and the spread of the two languages which divided the Empire, both of which were familiar to nearly all educated men, these two causes must both have contributed to produce a more general diffusion of knowledge over a larger territory where there was greater equality. Their natural effect was to weaken little by little the differences that separated the philosophical sects, and to unite them in one which would select, out of the various opinions of each, those which conformed most closely to reason, those which reflection and examination had confirmed. Reason must have led philosophers to this conclusion when the effect of time upon sectarian enthusiasm had allowed her voice to be universally heard. So we find already in Seneca some traces of this philosophy; it was never alien to the academic sect, which in the end was identified almost entirely with it; and the last disciples of Plato were the founders of eclecticism.

Almost all the religions of the Empire had been national. But they also had important features in common and to some degree a family resemblance. These common features were the absence of any meta-physical dogma; a number of fantastic ceremonies which had a meaning incomprehensible to the people and often to the priests themselves; an absurd mythology in which the populace saw only the marvellous history of its gods, but which more educated men suspected to be an allegorical representation of more enlightened beliefs; bloody sacrifices; idols which represented the gods and some of which, consecrated by age, were credited with heavenly virtue; pontiffs, each devoted to the cult of a particular divinity, forming no body politic nor even united in a religious community; oracles attached to particular temples and particular statues; and finally, mysteries which their hierophants communicated only after imposing the vow of inviolable secrecy.

We must further mention that the priests, who were arbiters in all matters of religious conscience, had never dared claim to be arbiters in matters of morals, that they directed the offices of worship and not the actions of private life. They sold oracles and auguries to political powers; they could hurl people into wars or order them to commit crimes; but they exercised no influence over government or laws.

In an empire where the various subject nations had habitual converse with each other and where knowledge everywhere made more or less equal progress, men of education soon perceived that all these forms of worship appertained to one god of whom the countless divinities, the direct objects of popular devotion, were merely the various modifications or intermediaries.

With the Gauls, however, and in some Eastern provinces, the Romans found religions of a different character. There the priests were arbiters of morality, and virtue consisted in obeying the will of a God of whom they claimed to be the sole interpreters. Their dominion embraced the whole man; temple and state were confused; a man was an adorer of Jehovah and Jesus before he was a citizen or a subject of the empire; and the priests decided which human laws their god allowed them to obey.

These religions must have wounded the vanity of the masters of the world. That of the Gauls was too powerful for them not to achieve its immediate destruction. The Jewish nation was even scattered, but the government, either out of disdain or impotence, never extended its vigilance to the obscure sects which were formed soon afterwards out of the ruins of these ancient religions.

One of the advantages of the propagation of Greek philosophy had been the destruction of the belief in popular divinities in all classes that had received any education. A vague theism, or the pure mechanism of Epicurus, was, even in Cicero's day, the ordinary belief of anyone who had cultivated his mind and of all those who directed public affairs. This latter class naturally supported the old religion, but sought to refine it because the great number of gods in every country had tired even the credulity of the people. So we see philosophers building systems upon intermediary spirits, and subjecting themselves to preparations, practices, a religious discipline, in order to make themselves worthier to approach these intelligences superior to man: and it was in the Dialogues of Plato that they sought a foundation for this doctrine.

The people of conquered nations, the misfortunated, and men of a wretched and inflamed imagination chose to attach themselves to priestly religions because the priests who controlled them, in their own interest breathed into them a belief in equality even in slavery, in the renunciation of worldly goods and in the existence of heavenly rewards for the blindly submissive, for the suffering, for those who had voluntarily humiliated themselves or endured humiliation patiently: a doctrine so seductive in the eyes of oppressed humanity! However, these priests saw the necessity of refining their coarse mythology with some philosophical subtlety, and once again they had recourse to Plato. His Dialogues were the arsenal to which the two parties resorted to forge their theological arms. We shall observe how at a later date Aristotle was honoured in a similar fashion, and found himself at once the master of the theologians and the leader of the atheists.

Twenty Egyptian and Jewish sects who were united against the imperial religion but fought each other no less furiously, were finally swallowed up in the religion of Jesus. Out of their ruins, a history, a belief, and a moral and ceremonial code were constructed to which the great mass of enthusiasts gradually attached themselves.

All believed in one christ, in a messiah sent by God to redeem the human race. This was the fundamental dogma of every sect that wished to raise itself upon the ruins of the old ones. There were disputes about the time and the place of his appearance and about his earthly name; but the name of a prophet who, it was said, had appeared in Palestine, under Tiberius, eclipsed all others, and the new fanatics rallied under the standard of the son of Mary.

As the empire weakened, the faster was the progress of this Christian religion. The degeneracy of the ancient conquerors of the world spread

to their gods, who, having presided over their victories, were now merely the impotent witnesses of their defeats. The spirit of the new sect was better suited to an age of decadence and misery. Its chief exponents, for all their impostures and their vices, were enthusiasts ready to perish for their doctrine. The religious zeal of the philosophers and the great men was only a form of political loyalty; and any religion which receives its support merely as a belief useful for the common people to follow cannot hope for more than a death agony, brief or lengthy. Soon Christianity became a powerful force; it intervened in the quarrels of the Caesars; it put Constantine on his throne and then it put itself there beside his feeble successors.

It was in vain that Julian, one of those extraordinary men whom fate sometimes raises to sovereign power, endeavoured to rid the empire of this scourge which was hastening its downfall. His virtues, his indulgent humanity, the simplicity of his ways, the elevation of his mind and character, his talents, his bravery, his military genius and his brilliant victories, all seemed to assure him success. The only reproach that could be levelled against him was that he showed an attachment to a religion become ridiculous that was unworthy of him if he was sincere, and that was ludicrously exaggerated if he was merely politic; but he perished at the height of his glory, after a reign of two years. The colossus of the Roman empire no longer found arms powerful enough to uphold it, and the death of Julian burst the only dam that could still oppose the torrent of the new superstitions and the flood of barbarian invasion.

Disdain for the humane sciences was one of the first characteristics of Christianity. It had to avenge itself against the outrages of philosophy, and it feared that spirit of doubt and inquiry, that confidence in one's own reason which is the bane of all religious beliefs. The natural sciences were odious and suspect, for they are very dangerous to the success of miracles, and there is no religion that does not force its devotees to swallow a few physical absurdities. So the triumph of Christianity was the signal for the complete decadence of philosophy and the sciences.

The sciences might have been able to resist this decadence if the art of printing had been known; as it was, the manuscripts of any single book were few in number, and to obtain the entire literature of any one science involved considerable difficulty, expense and travelling, which only the rich were able to afford. It was easy for the dominant party to effect the disappearance of books that shocked its prejudices or unmasked its impostures. A Barbarian inroad could in one day deprive the whole of

a country forever of the means of education; since the destruction of a single manuscript was often an irreparable loss for a whole country. Besides, only works recommended by the names of their authors were copied. All the research that could acquire importance only if allied to other research, all isolated observations and detailed advances that serve to maintain the sciences at the same level and to prepare a way for further progress, all the materials amassed by time and awaiting genius, remained condemned to eternal obscurity. The communication of scholars and the unification of their labours, which are so useful, at certain times so necessary, did not exist. Each man had to begin and to end a discovery himself, and he was obliged to fight alone against all the obstacles that nature puts in the way of our efforts. Works that facilitate the study of the sciences and illuminate their difficulties, that present truth in simpler and more manageable forms, detailed observations and research that often throw light upon the errors of accepted beliefs, and books in which the reader often grasps what the author himself had not noticed – all these found neither copyists nor readers.

It was thus impossible for the sciences, which already contained such a disordered profusion of knowledge as to make their progress and their further development difficult, to survive and to resist the slippery slope which led them rapidly to decline. So it is not to be wondered at that Christianity, which after the invention of printing was not powerful enough to prevent their dazzling renaissance, was at this period powerful enough to consummate their ruin.

If we make an exception of dramatic art, which flourished in Athens alone and fell with her, and eloquence, which can only breathe where the air is free, the Greek language and literature long kept its glory. Lucian and Plutarch would not have disfigured the century of Alexander. Rome rose to the level of Greece in poetry, eloquence, history and the art of treating the stark themes of philosophy and the sciences with dignity, elegance and charm. Even Greece never produced a poet who gives such a sense of perfection as Virgil; and she had no historian to equal Tacitus. But this moment of glory was followed by a rapid decline. From the time of Lucian, Rome had none but almost barbarian writers. Chrysostom still spoke the language of Demosthenes; but we cannot recognise the language of Cicero or Livy either in Augustine, or even in Jerome who cannot plead in extenuation the influence of African barbarism.

The truth is that in Rome the study of letters and love of the arts was never a truly popular taste; the transitory perfection of the language was

the work, not of the national genius but of certain individuals who had been moulded by the influence of Greece; Roman soil was ever foreign to letters, for though assiduous cultivation could naturalise them, they ran to seed as soon as they were left to themselves.

The importance that was for so long ascribed to the talent of the tribune and the bar, in both Greece and Rome, swelled the ranks of the orators in both these countries. Their works have contributed to the progress of that art whose principles and finer points they developed. They also taught another art, however, which has been unduly neglected by the moderns, and which ought to be carried over in our day from spoken works to printed works. This is the art of composing extemporary speeches in which the ordering of the divisions, the method of exposition and the imagery are all at least tolerable; of addressing an audience, without any previous preparation and yet without bewildering them with a string of disordered ideas and a rambling style, without offending them with extravagant declamation, uncouth nonsense and fantastic incongruities. How useful this art would be in all countries where the functions of position, public office or private interest may oblige one to speak and to write without having had time to meditate one's speeches or one's writing! Its history merits some study, the more so since the moderns, for whom it is often a necessity, seem to know only of its more ridiculous aspects.

Throughout this period, books increased in number, and the interval of time that separated men from the early Greek writers tended to envelop their writings in obscurity, so that in consequence the study of books and opinions, known by the name of erudition, came to occupy an important place in intellectual studies. The library at Alexandria was populated by grammarians and critics. We can observe in those works of theirs that have come down to us a tendency to measure their admiration for, and confidence in, any book by its age and by the difficulty of understanding it or of finding it; a disposition to judge opinions not on their own merits but according to the names of those who held them; an inclination to trust in authority rather than in reason; and, finally, the false and pernicious belief in the decadence of the human race and the superiority of earlier ages. The importance that men ascribe to whatever is the object of their occupations and whatever costs them effort is at once the explanation of, and the excuse for, those errors in which learned men of all nations and all times have to some extent participated.

We can reproach the Greek and Roman scholars and even their scientists and philosophers with a complete lack of that spirit of doubt which

submits facts and proofs to severe rational scrutiny. As we examine their writings for an account of events and habits, of natural phenomena, of works of art, we are astonished to see them retail imperturbably the most palpable absurdities, the most revolting extravagances. An *it is said that* or an *it is reported that* at the beginning of a phrase seemed to them sufficient to shelter them from the reproach of *puerile credulity*. It is, above all, the unfortunate fact that the art of printing was as yet unknown that accounts for that indifference which corrupted their study of history and opposed their progress in the understanding of nature. The knowledge that one has assembled on every point all the authorities who might confirm or repudiate it, the ability to compare different witnesses and to understand the controversies to which these differences give rise; all these various ways of ascertaining the truth of some matter cannot exist except when one can have a large number of books and can multiply copies of them indefinitely and is not afraid of their widespread diffusion.

How was there any chance for those travellers' stories and descriptions, of which there was often only a single copy, and which were never submitted to public scrutiny, to acquire that authority which a book can enjoy only when it has been submitted to scrutiny and survived it. In consequence, everything was reported equally, because of the difficulty in deciding with any certainty what was worthy of being reported. Nor have we the right to be surprised at the way the most natural and most miraculous facts were presented with precisely the same confidence and precisely the same authority. For in our own day this mistake is still taught in our schools as a principle of philosophy, whilst exaggerated incredulity leads us in the opposite direction to the rejection without examination of everything that seems strange. The science which alone can teach us how to find the point between these two extremes where we should rationally stop is still in its infancy.

The sixth epoch

*The decadence of knowledge to its restoration about the
time of the Crusades*

During this disastrous stage we shall witness the rapid decline of the human mind from the heights that it had attained, and we shall see ignorance following in its wake, and sometimes bestial cruelty, and sometimes cruelty in all its refinement, and everywhere corruption and treachery.

Nothing could penetrate that profound darkness save a few shafts of talent, a few rays of kindness and magnanimity. Man's only achievements were theological day-dreaming and superstitious imposture, his only morality religious intolerance. In blood and tears, crushed between priestly tyranny and military despotism, Europe awaited the moment when a new enlightenment would allow the rebirth of liberty, humanity and virtues.

We must needs divide our picture of this stage into two distinct parts. The first part will deal with the West, where decadence ensued more rapidly and more completely, but where the light of reason was to reappear, never again to be extinguished; the second part will deal with the East, where decadence was slower to appear and was for a long time less pervasive, but where even to this day the moment is still awaited when the light of reason will break through and the chains of servitude be cast off.

Christian piety had scarcely overthrown the altar of Victory when the West fell a prey to the Barbarians. The conquerors adopted the new religion, but not the language of the conquered; this became the sole preserve of the priests and, thanks to their ignorance and their contempt for letters, whatever might have been hoped for from the study of Latin texts was lost to humanity, since they alone could read them.

The ignorance and barbarous morality of the conquerors are well known; yet dull-witted and bestial though they were, it was they who brought about the abolition of domestic slavery, an institution which had besmirched the noblest days of Greece for all her wisdom and her love of liberty. Glebe serfs cultivated the land of the conquerors and provided them with household servants; and this state of affairs flattered their vanity and ensured that their every whim was satisfied. As a result wars were now fought not in order to capture slaves, but so as to acquire land and people to work it. Furthermore, most of the slaves whom the conquerors found in the countries that they overran were either members of their own tribes, who had been captured in some earlier campaign, or else the descendants of such prisoners. A great number of them deserted and joined forces with the armies of the conquerors. Again, the principles of universal brotherhood which were part of the Christian moral code condemned slavery, and the clergy, having in this matter no personal interest in not following maxims which did so much credit to their cause, spoke out openly against slavery, and so served to further its destruction, a consummation which the course of history had now in any case made inevitable.

This process was the seed of a revolution in the destiny of the human race and to it is due the knowledge of true liberty. It had at first a barely perceptible influence over the fate of the individual. We should have a mistaken idea of slavery in the Ancient World if we compared it with the slavery of the black races of our own day. The Spartans, the nobles of Rome and the Satraps of the East were in truth barbarous masters. The full cruelty of avarice manifested itself in the work that slaves carried out in the mines. But in most private families masters, out of self-interest, had mitigated the conditions of slavery as far as their household dependants were concerned. In contrast, it was comparatively easy to maltreat a glebe serf with impunity, since the law itself granted this at a price. Their degree of dependence was the same as that of the slave, but they received none of the compensations in the matter of care and help. They did not suffer the same continued humiliation, but their masters, being more vain, were more arrogant. The slave was a man condemned by fate to a condition to which the hazards of war might one day expose his master. The serf was a member of an inferior and degraded class.

It is, therefore, mainly from the point of view of its distant consequences that we ought to consider the destruction of domestic slavery.

All these barbarian nations had a more or less similar constitution: a common chief called king, who with the help of a council pronounced judgements and gave decisions which brooked no delay; an assembly of special chieftains, who were consulted on all matters of any importance; and, finally, an assembly of the people, where all questions that concerned the people as a whole were deliberated. The principal differences between these three powers lay in the amount of authority they enjoyed; they are to be distinguished not by their functions, but by the matters with which they dealt and, even more, by the view of their relative importance held by the mass of the people.

Amongst agricultural peoples, and especially amongst those who had already established themselves on foreign territory, these constitutions had acquired a more rigid and determinate character than amongst pastoral peoples. In addition, these nations were dispersed and not brought together in a number of camps. As a result, the king had no army constantly at his disposal, and it was not possible for him to follow up his victories by establishing a despotism, which was what generally occurred in Asiatic revolutions.

Thus, the conquerors preserved their liberty. They did not destroy the towns, although they did not occupy them. Since there was no standing

army to maintain a garrison, the towns acquired a measure of independence, and so provided a rallying-place for the spirit of freedom in the conquered nation.

The Barbarians often invaded Italy. They were, however, unable to gain a permanent footing there, because the wealth of the country constantly excited the greed of new invaders and because the Greeks for a long time clung to the hope of bringing it back within their Empire. As a result, Italy was never totally or permanently reduced to slavery by any nation. The Latin language, which was the sole language of the people, was corrupted more slowly; ignorance was not so complete, nor superstition so crass, as in the other countries of the West.

Rome, which recognised masters only to change them, preserved a species of independence. It was the residence of the head of the Church. For whereas in the East the clergy were subject to a single prince, the emperor, whom they sometimes controlled and sometimes conspired against, yet, even when they fought against the despot, they upheld the principle of despotism, preferring to superintend all the power of an absolute monarch rather than possess a limited power for themselves. In the West, on the other hand, the priests, united under a chief of their own, raised a power which rivalled that of the kings, which among these divided states constituted a sort of unique and independent monarchy.

We shall see the overbearing city of Rome attempting to impose the chains of a new tyranny upon the whole world. We shall observe her pontiffs gaining an ascendancy over the ignorant and the credulous by means of crudely forged documents; introducing religion into all the transactions of civil life as the instrument of their avarice or of their vanity; punishing the least opposition to their laws, the least resistance to their absurd prejudices with anathemas terrible to the faithful; maintaining an army of monks in every country, ever ready with their deceits to encourage the superstitious fears, so as to impose fanaticism more effectively; depriving nations of their own forms of worship and of the ceremonies in which their religious hopes were invested so as to plunge them into civil unrest; sowing dissension to obtain power, authorising treason and perjury, assassination and patricide in the name of God, and making kings and warriors by turn the instruments and the victims of their vengeance; wielding force, but never truly possessing it; terrible to their enemies, but trembling before their own defenders; all-powerful at the uttermost ends of Europe, yet defied with impunity at the very foot of their own altars; finding in heaven a fulcrum whereby to lever the whole world into

motion, but unable to find on earth a regulator to guide and conserve its influence at their behest; raising a colossus on feet of clay, a colossus which would oppress Europe while it stood and whose ruins were to encumber her long after its fall.

Wars of conquest had reduced the West to a state of stormy anarchy in which the people groaned under the triple tyranny of kings, warriors and priests; but this anarchy contained the seeds of liberty within its womb.

Our observations about this part of Europe also apply to the countries that were never under Roman rule. Their inhabitants were swept along in the general movement, conquering and conquered by turn; ties of common origin and habits bound them to the conquerors of the Empire and they were indistinguishable from them in most respects. Their political condition observed the same phases and developed in a very similar direction.

We shall trace the picture of the revolutions that mark this stage, which may aptly be called feudal anarchy.

The legislation of the age was savage and uncouth. Insofar as we find laws of any mildness, this apparent humanity was really only dangerous indifference. However, there were at this period a few valuable laws, though these, insofar as they protected the rights only of the ruling classes, were so much the greater outrage against the universal rights of mankind; nevertheless, they kept alive a feeble notion of the rights of man, and were one day to serve as a guide in their re-discovery and restoration.

In these laws we find two singular customs characteristic both of the childhood of nations and of the ignorance of uncivilised ages.

One was that a guilty person could buy himself out of punishment by paying some sum of money fixed by a law which assessed the value of a man's life by his position or birth. Crimes were regarded not as attacks against security and the rights of citizens, something to be prevented by the fear of punishment, but rather as wrongs done to an individual which he or his family had the right to avenge, but for which the law offered a more useful reparation. The other was that people had so little idea of the method of proof by which matters of fact could be established that they found it simpler to ask heaven for a miracle whenever they wanted to distinguish the guilty from the innocent, and the outcome of a superstitious trial by ordeal or the result of a duel were regarded as the surest methods of discovering and establishing the truth.

In a society where independence and liberty were confused, quarrels even among very minor chieftains degenerated into private feuds, and these wars between canton and canton, village and village, were constantly exposing the whole countryside to all those horrors of war which in great invasions are at least only temporary, and which in wars of a more general kind affect only the frontier areas.

Whenever tyranny attempts to subject the majority of the people to the will of a minority, it exploits the prejudices and ignorance of its victims, and seeks to compensate by the vigour and unity of a small force for the lack of that real strength which, it seems, must necessarily belong to the majority. But the ultimate aim of tyranny, which it only rarely attains, is to establish real differences between masters and slaves, and so, as it were, to make nature herself an accomplice of political inequality.

This was an art actually possessed in ancient times by the priests of the orient, when they were at once kings, pontiffs, judges, astronomers, surveyors, artists and doctors. But what they owed to their monopoly of intelligence, the crude tyrants who ruled over our weak ancestors obtained through institutions and warlike habits. Clad in impenetrable armour, fighting always on horses as invulnerable as themselves, possessing a mastery of horsemanship and arms that could be acquired only after a long and painful apprenticeship, they were able to oppress and kill the common people with impunity; for the people could not afford to buy expensive suits of armour or devote their youth to military exercises, obliged as they were to pursue some useful calling.

The tyrannical minority, by using this method of fighting, acquired a real superiority of strength, which prevented any idea of resistance and for a long time made even acts of desperation useless. And so natural equality disappeared before the artificial inequality of physical force.

Morality, which was taught by the priests alone, embodied those universal principles upon which all sects have agreed; but it also created a host of purely religious duties and imaginary sins. These duties were more strongly insisted upon than the natural duties; and actions that were neither good nor bad, some that were legitimate and a few that were even virtuous, were more severely reproached and punished than real crimes. However, one moment of repentance, consecrated by a priest's absolution, opened the heavens to a rogue; gifts which flattered the greed of the Church and practices which flattered its vanity sufficed to expiate a whole lifetime of crime. The priests even went so far as to make a tariff for these absolutions. The sins with which they dealt included everything

from the most innocent weaknesses of love and the simplest desires to the refinements and excesses of the most vile debauchery. It was obvious that hardly anyone could escape censure, and as a result this was one of the most productive branches of the priestly commerce. They went so far as to assign fixed periods in hell for different offences, which the priests had the power to shorten or even to condone altogether; this indulgence was sold first to the living, and then to the relatives and friends of the dead. They sold acres in heaven for an equivalent number on earth, and were modest enough not to ask for interest.

The morals of these unhappy times were worthy of such a deeply corrupting system.

The growth of this same system gave rise to many absurdities: monks inventing ancient miracles or manufacturing new ones, feeding the ignorance and stupidity of the people with fables and prodigies, deluding them in order to despoil them; doctors of the Church exhausting all their ingenuity in an effort to find some new piece of nonsense with which to embellish their faith or to outdo their predecessors; priests compelling princes to burn any man who dared doubt one of their dogmas, unmask their impostures or denounce their crimes, or who wavered for a moment from the course of blind obedience; so great was their power that they could even send to the stake theologians injudicious enough to dream in a way other than that of their superiors in the Church ... Such scenes are all that western Europe has at this stage to contribute to the picture of humanity.

In the East, which was united under a single despot, we shall see decadence pursuing a slower course in the wake of the gradual decay of the empire, and each century's ignorance and corruption becoming greater than those of the preceding one. We see wealth diminish, frontiers contract towards the capital, revolutions become more frequent and tyranny more cowardly and cruel.

As we follow the history of the empire, as we read the books produced by each age, this comparison will strike even the least practised and attentive eye.

In the East people gave themselves even more to theological polemic; it occupied a larger place in history and influenced political events to a greater degree. Daydreams took on more subtle forms than the jealous West could as yet achieve, and religious intolerance was as oppressive if less savage.

However, the works of Photius show that a taste for rational study was not altogether extinguished. Several emperors and princes, and even

some princesses, did not confine themselves to skill in theological disputation, but deigned to cultivate the art of letters.

Roman law changed only gradually as it was corrupted by bad laws, which the various emperors passed from greed and love of power or which were wrung from them by the forces of superstition. The Greek language lost its purity and its special character, but kept its grammar and verbal wealth; the inhabitants of Constantinople could still read Homer and Sophocles, Thucydides and Plato. Anthemius explained the construction of Archimedes' mirrors, and Proclus used them successfully in the defence of the capital. When the Empire finally fell, Constantinople was still the home of a number of scholars, who fled to Italy where their knowledge proved extremely useful to the progress of enlightenment. During this stage, then, the East had not sunk into the final stage of barbarism, although it was past all hope of mercy. Later it became the prey of the Barbarians; with its disappearance went the last remains of civilisation; and the ancient genius of Greece still awaits a liberator.

At the confines of Asia and on the borders of Africa, there existed a people who had been preserved, partly by their bravery, partly by their geographical isolation, from Persian conquests and those of Alexander and the Romans. Of these many tribes, some lived by agriculture whilst others still led a pastoral life. All took part in trade and some in robbery. United by ties of race, language and, to a lesser degree, of religion, they formed one great nation, although there was no political link to combine the different parts. Suddenly there arose from amongst them a man of burning enthusiasm and profound astuteness, endowed with the talents of a poet and of a warrior. He conceived the bold design of uniting the Arab tribes into a single community, and was brave enough to execute it. As a first step towards bringing a common rule to a nation which had remained untamed, he founded a more purified religion upon the ruins of the old forms of worship. As legislator, prophet, pontiff, judge and general, he possessed all the means of subjugating men and knew how to use them skilfully but in the grand manner.

He retailed a number of fables which he claimed to have received from heaven; but he won battles. His life was divided between prayer and the pleasures of love. After twenty years of absolute power, for which there is no precedent in history, he declared that if he had committed a single act of injustice, he was ready to make reparation for it. Everyone was silent; except for one woman alone who had the audacity to claim back a small

sum of money. He died, and the enthusiasm that he had communicated to his people was soon to change the face of three-quarters of the world.

The manners of the Arabs were gentle and dignified. They loved poetry and cultivated it; ruling over the most beautiful countries of Asia, they allowed the taste for letters and the sciences to temper their missionary zeal and mitigate their love of war, once time had calmed the fever of religious fanaticism.

They translated Aristotle and studied his works; they cultivated astronomy, optics and the various branches of medicine; and they enriched these sciences with new truths. We owe to them the spread of the use of algebra, which had been applied by the Greeks only to one class of problem. If it is true that their fanatical interest in the secrets of alchemy and the elixir of life sullied their work in chemistry, it must be remembered that it was they who revived, or rather invented, this science which had till then been confused with pharmacy or with technical skill in the arts. It was with them that chemistry appeared for the first time as the analysis of bodies into discernible elements and as the theory of their compounds and the laws of such compounds.

With the Arabs the sciences were free, and to this freedom was due their success in reviving some sparks of the Greek genius; but they lived under a despotism sanctified by religion. So this light shone only for a few moments to give way to the blackest darkness; and the work done by the Arabs would have been lost to the human race forever if they had not done something to prepare the way for the more lasting revival which was brought about in the West.

So we see for the second time the spirit of genius abandoning a people it had enlightened, and once again it is tyranny and superstition that drove it away. Born in Greece as the twin of liberty, it could neither save it from destruction nor defend reason from the prejudices of men who had already been degraded by slavery. Born amongst Arabs, in the very bosom of despotism and near the cradle of a fanatical religion, it was, like the generous and brilliant character of that people, only a temporary exception to the general laws of nature which condemn servile and superstitious nations to ignorance and degradation.

So this second example ought not to cause us anxiety about the future; but it may serve as a warning to the present age to do its utmost to maintain and increase the sum of human knowledge if it wishes to become or to remain free, and to defend that freedom with all its might if it does not wish to lose the advantages that enlightenment has brought it.

I shall append to the history of the achievement of the Arabs an account of their rapid rise and fall as a nation. After having held sway from the shores of the Atlantic Ocean to the banks of the Indus, they lost the greater part of their conquests to the Barbarians, and those countries that they continued to hold served only to exhibit the hideous spectacle of a people degenerate to the last extreme of slavery, corruption and misery. Today they occupy their ancient homeland, maintaining their traditions, their character and their integrity, and have even been able to regain and preserve their ancient independence.

I shall show how the religion of Mahomet, in spite of being of all religions the most simple in dogma, the least absurd in practice and the most tolerant in principle, seems to condemn the whole of that vast area of the earth where its empire has held sway to eternal slavery and incurable stupidity, while at the same time we shall see the genius of science and liberty shining out under the most absurd superstitions and amongst the most barbarous intolerance. China presents the same phenomenon, although there the effects of that stultifying poison have been less grave.

The seventh epoch

The early progress of science from its revival in the West to the invention of printing

Several causes were responsible for the gradual restoration to the human mind of the strength that, it had seemed, would be crushed forever beneath those heavy, shameful fetters.

The intolerance of the priests, their struggle for political power, their scandalous greed and moral depravity made even more disgusting by a mask of hypocrisy, revolted anyone whose soul was uncorrupted, whose mind unclouded, whose heart undaunted. There was such a striking contrast between the dogmas, principles and behaviour of the priests and those of the early disciples, the founders of their doctrine and moral creed, of whom the priests could scarcely keep the people in total ignorance.

As a result, powerful voices were raised against them. In the south of France whole provinces united in adopting a simpler doctrine and a purer form of Christian belief according to which man, subject only to God, might judge according to his own lights what it had pleased God to reveal to him in holy scripture. Armies of fanatics, captained by ambitious leaders, were unleashed upon these provinces. Executioners under the command

of priests and legates slaughtered whomsoever the soldiers spared: a tribunal of monks was set up with the task of committing to the executioner anyone who could be suspected of having lent an ear to reason.

Yet despite such measures, the priests were powerless to prevent this spirit of liberty and free inquiry from spreading surreptitiously. It was repressed in every country where it dared show itself, and wherever intolerant hypocrisy could fan the flames of bloody war; but it managed to survive and secretly spread to another country. It is to be found in all ages up to the moment when, assisted by the invention of printing, it was powerful enough to deliver a large area of Europe from the yoke of Rome.

There already existed a class of men who were above all superstitions and were content to despise them in secret, or at most allowed themselves a few ironical asides in which the mockery was made more telling by the veil of deference with which they were careful to conceal it. The very lightheartedness of these impudent attacks secured their impunity, and appearing, as they did, in works destined only for the amusement of the great or the learned and unread by the ordinary people, they escaped the wrath of any persecutors.

Frederick II was suspected of being what our eighteenth-century priests have since called a *philosophe*. The Pope accused him before the whole world of treating the religions of Moses, Jesus and Mahomet as so many politic fables. To his Chancellor, Pietro della Vigna, was attributed an imaginary book called *The Three Impostors*; and although this work was entirely apocryphal, the very title alone proclaimed the existence of an opinion which was the natural consequence of an inquiry into these three beliefs: for springing from a common origin, they must have been corruptions of a purer form of worship rendered by peoples at the dawn of history to the universal soul of the world.

The collections of our own *fabliaux*¹ and the *Decameron* of Boccaccio are full of passages that breathe this spirit of free inquiry, this scorn for all prejudices and this tendency to make them the subject of a sly and secret derision.

This stage thus presents us with the spectacle of men who regarded all superstition with passive contempt side by side with the enthusiastic reformers of its grossest abuses; and we can trace an almost unbroken line of descent for these obscure pronouncements and protestations in favour

¹ Comic tales of the twelfth and thirteenth centuries.

of the rights of reason going back to the later philosophers of the school of Alexandria.

We shall ask ourselves whether, at this period when philosophical proselytism was so formidable, there were not secret societies formed to keep alive a small number of simple truths and to diffuse them clandestinely amongst a few initiates as sure antidotes against the prevalent superstitions.

We shall also inquire whether we ought not to number amongst such societies that famous order against which popes and kings conspired so ignobly and which they destroyed so barbarously.

Priests were obliged to study and perfect themselves in the art of forging biblical passages so as to defend themselves or justify their usurpations of secular power. Kings, for their part, wishing to strengthen their hands in a war in which all claims rested on authority and precedent, encouraged schools for the training of lawyers who could champion them against the priests.

In these disputes between the clergy and governments, and between the clergy of each country and the head of the Church, those endowed with a loftier cast of mind and a franker, more noble character fought on the side of the laity against the priests, on the side of the national clergy against the despotism of a foreign potentate. They attacked these abuses and usurpations and tried to expose their origin. Such boldness may seem to us today mere servile timidity; we are amused to see so much effort spent in proving what ordinary common sense should teach. But these commonplaces were then newly discovered truths, and they often decided the fate of nations; it required independence to pursue them, courage to defend them; and it was through these men that human reason began to recall its rights and its liberty.

In the quarrels that arose between kings and lords, the former gained the support of the large towns by granting them certain privileges or by restoring to them some of their natural human rights; and they sought by manumission to increase the number of those enjoying these civic rights. These men who were reborn to freedom, felt how important it was for them to acquire through the study of law and history that necessary skill and learning which alone could counterbalance the military strength of feudal tyranny.

The rivalry between pope and emperor prevented Italy from being reunited under one master, and ensured the continuance of a large number of independent societies. In small states it is necessary to add the power of persuasion to that of force, and to have recourse to negotiation

as often as to arms. As this political warfare had its foundation in a war of ideas, and as Italy had never entirely lost her taste for learning, she became the centre of enlightenment in Europe and, though weak, one that gave promise of rapid growth.

Then, religious enthusiasm fired the western nations to attempt the conquest of the holy places, places consecrated, or so it was said, by the death and miracles of Christ. Not only did this strange distemper assist the progress of liberty by bringing about the impoverishment and decline of the nobility, but it also furthered the relations between Europeans and Arabs, which began with the mingling of Christians and Arabs in Spain and were cemented by the commerce of Pisa, Genoa and Venice. People learnt the Arab language; they read Arab writings; they learnt something about their discoveries, and if in scientific matters they did not go beyond them, at least they had the ambition to rival them.

These wars, undertaken in the cause of superstition, served to destroy it. The sight of a multiplicity of religions ended by awakening in reasonable men an equal indifference to creeds which were equally powerless to combat the vices and the passions of mankind, and an equal scorn for the zeal equally sincere, equally fanatical with which the different sects maintained their contradictory doctrines.

Various republics had been established in Italy, some of which imitated the forms of the Greek republics whilst others tried to reconcile the servitude of a subject people with the democratic liberty and equality of a sovereign people. In the North, in Germany, some towns had gained almost complete independence and governed themselves according to their own laws. In some of the Swiss cantons, the people broke the chains of feudalism and of the royal power.

In almost all the great states, mixed constitutions came into being in which the right to levy taxes and make new laws was divided sometimes between the king, the nobles, the clergy and the people, sometimes between the king, the barons and the commons; in these constitutions the people, although not yet liberated from their humiliations, at least had some shelter from oppression, and those who form the real core of a nation were given the right to defend their own interests and to be heard in the councils of those who decided their fate. In England a famous charter was solemnly sworn by the king and the nobles guaranteeing the rights of the barons, and some of the rights of ordinary men.

Other peoples, provinces and even towns obtained similar charters less well known and less well defended. These are the originals of those

declarations of the rights of man which all enlightened men today regard as the cornerstones of liberty, but of which the Ancients did not and could not have any notion: since domestic slavery sullied their constitutions, since for them citizenship was a merely hereditary or adoptive right, and since they were still ignorant of the inherent rights of the human race which belong to all men alike.

In France, in England and in some of the other great nations the people seem to have desired their true rights, but their desire sprang not from enlightened reason but from a blinding sense of oppression, and the only fruit of their efforts was violence avenged by greater violence, looting followed by worse misery.

In England, however, the principles of the reformer Wycliffe inspired one of these movements, which was led by some of his disciples and which was the precursor of the more elaborate and better organised attempts which the people were to make under other reformers in a more enlightened age.

The discovery of a manuscript of the code of Justinian occasioned the rebirth of the study of jurisprudence and of legislation and served to mitigate the severity of the law, even amongst the people who knew how to turn it to their advantage without wishing to be restricted by it.

The trade of Pisa, Genoa, Florence and Venice, of the cities of Belgium and some of the free towns of Germany included the Mediterranean and the Baltic and extended to the shores of the European Ocean. Their merchants sought the precious commodities of the Levant in Egyptian ports and on the furthestmost shores of the Black Sea.

Politics, legislation and public economy were not as yet sciences; there was no attempt to discover and develop their principles, but experience began to throw some light on these subjects, to supply observations that might form the basis of sciences, and to reveal a state of affairs in which the need for these sciences could not but be felt.

At first the works of Aristotle were known only in translation from the Arabic; and his philosophy, which was at first persecuted, soon reigned supreme in all the schools. It did not make for enlightenment, but it brought greater precision and method to the art of polemic, the child of theological disputes. This scholasticism neither encouraged the discovery of truth nor promoted better methods of evaluating and discussing evidence, but it whetted men's intellects: the taste for subtle distinctions and the need to sharpen ideas to the last refinement, to grasp the most fugitive shades of meaning and to clothe them in new expressions, the whole

paraphernalia intended to confound one's opponent or escape his traps – all this was the first beginnings of that philosophical analysis which has since been the fruitful source of our progress.

We owe to the Schoolmen more precise notions concerning the ideas that can be entertained about the supreme being and his attributes: the distinction between the first cause and the universe which it is supposed to govern; the distinction between spirit and matter; the different meanings that can be given to the word *liberty*; what is meant by *creation*; the manner of distinguishing the various operations of the human mind; and the correct way of classifying such ideas as it can form of real objects and their properties.

But this same method could only retard the progress of the natural sciences in the schools. A certain amount of anatomical research; a few obscure works about chemistry, entirely taken up with the quest for the Philosopher's Stone; a few works of geometry and algebra, which displayed less learning than that possessed by the Arabs and less understanding than that shown by the Ancients; some observations and astronomical calculations, which were limited to forming and perfecting tables and which were ludicrously mixed up with astrology: such is the picture of the sciences of this age. However, the mechanical arts began to approach the perfection that they had attained in Asia. Silk production was introduced into the countries of southern Europe and windmills and paper mills were built. The art of measuring time progressed beyond the point to which the Ancients and the Arabs had brought it. Finally, two important discoveries mark this stage of history. The property which the magnet possesses of always turning towards the same point in the sky, which the Chinese knew of and used for sailing, was also discovered in Europe. Men learnt the use of the compass and so trade increased, the art of navigation was perfected and men's thoughts turned to those voyages of discovery which have opened up a new world and allowed man to survey the whole expanse of the globe on which he has been set. A chemist, mixing saltpetre with inflammable matter, found the secret of that power which produced an unexpected revolution in the art of war. Despite the terrible effects of firearms, by allowing combatants to fight at a greater distance from one another, they have made war less murderous and warriors less ferocious. Military expeditions are now more costly; wealth can balance strength and even the most bellicose nations need to make themselves rich through the cultivation of trade and the arts if they are ever to possess the means of making war. Organised countries no longer have

to fear the blind courage of barbarous nations. Vast conquests and the revolutions that follow in their wake have become almost impossible. The superiority that the wearing of armour, the possession of horses that were almost invulnerable, and the use of the lance, the sword and the club gave the nobility over the common people disappeared, and the destruction of this last obstacle to freedom and to real equality is due to an invention which seemed at first glance to threaten the human race.

In Italy the language had almost reached perfection by the fourteenth century. Dante can be noble, precise and vigorous. Boccaccio's language has grace, simplicity and elegance. The ingenious and sensitive Petrarch has not aged. In this country with a climate so agreeably similar to that of Greece, the masters of antiquity were studied and people tried to carry across into the new language some of their beauties or to imitate them in the old. Some of their efforts already held out the hope that, awakened by the sight of these monuments of antiquity, instructed by these dumb but eloquent examples, the genius of the arts was about to embellish man's existence for the second time, and to offer him those pure pleasures whose enjoyment is open to all and which increases as it is shared.

The rest of Europe followed far behind; but the taste for letters and poetry at least began to refine languages that were still barbarous.

The causes that had forced men to emerge from their long lethargy, also influenced the direction that their activity took. Reason was never called upon to decide those matters where there was any real conflict of interests; religion, far from recognising the authority of reason, claimed to overrule it and glorified in its humiliation; and politics, in deciding what was just, always respected whatever was consecrated by habit, ancient customs and convention.

It was not suspected that the rights of man were written in the book of nature and that to look for them in any other was to misunderstand and outrage them. It was rather to holy books, revered authors, papal bulls, royal edicts, cartularies of custom and church chronicles that people turned for rules and precedents by which they could guide their conduct. There was no question of examining a principle in its own right: it was always a matter of interpreting, discussing, attacking, supporting one set of quotations by appeal to another. A proposition was accepted not because it was true, but because it was written in such-and-such a book and had been recognised in such-and-such a country since such-and-such a date.

In this way the authority of men was everywhere substituted for the authority of reason. Books were studied much more than nature, and the

opinions of the Ancients instead of the phenomena of the universe. This slavery of the mind, from which there was as yet no chance of appeal to an enlightened criticism, was more harmful to the progress of mankind by reason of its corrupting influences on all study than in any of its immediate consequences. Men were so far short of the standard of the Ancients that the time had not come to try to correct or surpass them.

Throughout this stage manners preserved their corruption and ferocity; religious intolerance was more active than ever; and civil discords, the endless wars of a crowd of petty princes, replaced the invasions of the Barbarians and the more sinister scourge of private warfare. It is true that the gallantry of minstrels and troubadours and the institution of chivalry, which encouraged liberality and sincerity and was devoted to the maintenance of religion, the defence of the oppressed and the service of the ladies, seem to have imparted some gentleness, refinement and elevation to manners. But this change was confined to the courts and castles and did not reach the mass of the people. It brought about a little more equality between the nobles, less treachery and cruelty in their relations with one another; but their contempt for the people, the violence of their tyranny, the audacity of their brigandage remained the same; and the nations, as oppressed as ever, lay as ever in a state of ignorance, barbarism and corruption.

The poetry, the gallantry and the martial qualities of chivalry, due in large part to the Arabs whose natural generosity long resisted superstition and despotism in Spain, were doubtless useful; they *sowed the seeds of humanity* which were to bear fruit only in more fortunate times; and it was indeed, the general character of this stage that it disposed the human mind for the revolution that the discovery of printing must bring about, and that it prepared the soil on which future generations were to produce so rich and abundant a harvest.

The eighth epoch

From the invention of printing to the time when philosophy and the sciences shook off the yoke of authority

To those who have not reflected much upon the progress of the human spirit in the sphere of scientific discovery or of artistic method, it might well seem amazing that such a long period of time should have elapsed between the discovery of the art of printing designs and the discovery of

the art of printing characters. Doubtless some engravers had thought of such an application of their art, but the difficulties of its execution had weighed with them more than the benefits of success; and it is indeed fortunate that nobody had suspected the full extent of future success, for priests and kings would surely have united to smother at birth the enemy that was to unmask and dethrone them.

With printing the copies of any book can be multiplied indefinitely at little cost. Since its invention, it has been possible for anyone who could read to obtain any book that he wanted or needed; and this which made reading easier in turn increased the will to learn and the means of instruction.

With so many copies of a book in circulation at the same time, information about facts and discoveries reached a wider public, and also reached it more promptly. Knowledge became the subject of a brisk and universal trade.

Previously people had had to search for manuscripts just as today we search for rare books. What formerly only a few individuals had been able to read, could now be read by a whole nation and could reach almost at the same moment everyone who understood the same language.

Men found themselves possessed of the means of communicating with people all over the world. A new sort of tribunal had come into existence in which less lively, but deeper impressions were communicated; which no longer allowed the same tyrannical empire to be exercised over men's passions, but ensured a more certain and more durable power over their minds; a situation in which the advantages are all on the side of truth, since what the art of communication loses in the power to seduce, it gains in the power to enlighten. The public opinion that was formed in this way was powerful by virtue of its size, and effective because the forces that created it operated with equal strength on all men at the same time, no matter what distances separated them. In a word, we have now a tribunal, independent of all human coercion, which favours reason and justice, a tribunal whose scrutiny it is difficult to elude, and whose verdict it is impossible to evade.

New methods, accounts of the first stages on the road to some discovery, the work that makes it possible, the ideas that suggest it or inspire men to it, all these become readily available as a result of printing, and offer to every man the whole store of methods and techniques that has been produced by the efforts of others; and it is as a consequence of this mutual assistance that genius has been able to more than double its strength.

Any new mistake is criticised as soon as it is made, and often attacked even before it has been propagated; and so it has no time to take root in men's minds. Those fallacies which are imbibed in infancy, becoming in some way identified with the reason of the individual, and which weaker characters cling to out of terror or hope, have now been eradicated for this reason alone: that it has become impossible to prevent their being openly discussed, to disguise the fact that they can be attacked and rejected, or to maintain them against the progress of truth which by argument must ultimately reveal them as absurd.

It is to printing that we are indebted for the fact that it is now possible to circulate any book required by the circumstances of the moment or the transitory changes of opinion, and, in consequence, all men who speak the same language can become alive to any question discussed anywhere.

Without this art, how would it be possible to produce in adequate numbers books suited to the different classes of men and to the different degrees of education? Prolonged discussion which alone can cast an unwavering light on doubtful questions and establish on an unshakable foundation truths that are too abstract, too subtle, too far-removed from the prejudices of the vulgar or the accepted opinion of the learned not to be soon forgotten and misunderstood; elementary books, dictionaries, works of reference containing a host of facts, observations and experiments in which all proofs are developed and all doubts discussed; valuable compilations containing all that has been observed, written or thought about one particular branch of the sciences, or setting out the work of all the scientists of one country in a given year; tables and diagrams of all kinds, some that show us conclusions that our minds would otherwise have grasped only after long struggle, some to which we can refer for some fact, observation, sum, formula or object that we need, and others that give us in a convenient form, in a methodical arrangement, the materials from which genius can extract new truths: all these means of accelerating, assisting, ensuring the forward march of the human mind must be numbered amongst the blessings brought by printing.

We shall reveal still more of these benefits when we come to analyse the effects of abandoning, in the sciences, a language common to the scholars of all countries in favour of the vernacular.

Has not printing freed the education of the people from all political and religious shackles? It would be vain for any despotism to invade all the schools; vain for it to issue cruel edicts prescribing and dictating the

errors with which men's minds were to be infected and the truths from which they were to be safeguarded; vain for the chairs dedicated to the moral enlightenment of the vulgar or the instruction of the young in philosophy and the sciences to be obliged under duress to put forward nothing but opinions favourable to the maintenance of this double tyranny: printing would still be able to diffuse a clear and independent light. The instruction that every man is free to receive from books in silence and solitude can never be completely corrupted. It is enough for there to exist one corner of free earth from which the press can scatter its leaves. How with the multitude of different books, with the innumerable copies of each book, of reprints that can be made available at a moment's notice, how could it be possible to bolt every door, to seal every crevice through which truth aspires to enter? For though this was difficult enough even when it was only a question of destroying a few copies of a manuscript to annihilate it forever, of proscribing a book or an opinion for a few years to consign it to eternal oblivion, has it not become impossible today when it would be necessary to maintain an absolutely ceaseless vigilance and an unrelenting activity? For even if it were possible to suppress those truths which only too obviously and directly injure the interests of the *inquisitors*, how would it be possible to suppress those other truths which secretly or by implication contain the forbidden truths within them, and which one day would lead mankind back to them? Could it be done at all without dropping the mask of hypocrisy, and would not this be almost as fatal as truth itself to the power of error? So we shall see reason triumphing over all such vain attempts, and we shall see it, in this ever recurrent and often cruel war, overcoming violence as well as cunning, braving the executioners and resisting the tempters, crushing under its all-powerful hand, first, religious hypocrisy which demands sincere adoration for its dogmas and, then, the political hypocrisy which abjectly pleads that it may be allowed to profit in peace from those errors in which, if we are to believe it, it is profitable not only for itself but for mankind that mankind should be sunk for ever.

There are two other events which took place almost at the same time as the invention of printing, of which one exerted an immediate influence over the progress of the human mind, whereas the influence of the other will be felt as long as the human race endures. I speak of the capture of Constantinople by the Turks and the discovery of the New World and of the route that opened direct communication between Europe and the eastern parts of Africa and Asia.

The Greek men of letters, fleeing from the domination of the Tartars, sought refuge in Italy. They taught people to read the poets, orators, historians, philosophers and scientists of ancient Greece in the original language; they increased first of all the number of manuscripts and then the number of editions. People were no longer confined to the worship of what had officially passed for the doctrine of Aristotle, but now looked to his own writings for what it had really been; they had the courage to criticise it and attack it, and Plato was set up in opposition. Once people felt that they had the right to choose their master, they had already begun to throw off the yoke.

The reading of Euclid, Archimedes, Diophantus, Hippocrates, Aristotle's *History of Animals* and even his *Physics* revived the genius of geometry and physics, and the anti-Christian opinions of the philosophers fanned the all but extinguished notions of the ancient rights of human reason.

Intrepid men, inspired by love of glory and passion for discovery, had pushed back further the bounds of the universe for Europe, had shown her new skies and opened up unknown lands. Da Gama had reached India after following the long African coastline with unwearying patience, whilst Columbus, abandoning himself to the waves of the Atlantic Ocean, had discovered that hitherto unknown world which lies to the west of Europe and to the east of Asia.

If this passion, whose restless activity henceforth embraced all objects, presaged great progress for the human race, if noble curiosity animated the heroes of navigation, it was a base, pitiless greed, a stupid, fierce fanaticism that inspired the kings and ruffians who were to profit from their labours. The unfortunate creatures who lived in these new lands were treated as though they were not human beings because they were not Christians. This prejudice, which had an even more degrading effect on the tyrants than on their victims, smothered any feeling of remorse that might have touched these greedy and barbarous men, spewed up from the depths of Europe, and they abandoned themselves to their insatiable thirst for blood and gold. The bones of five million men covered those unfortunate lands where the Portuguese and the Spaniards brought their greed, their superstitions and their wrath. They will lie there to the end of time as a mute witness against the doctrine of the political utility of religion; a doctrine which even to this day finds its apologists amongst us.

For the first time man knew the globe that he inhabited, was able to study in all countries the human race as modified by the long influence

of natural causes or social institutions, and could observe the products of the earth or of the sea, in all temperatures and all climates. The wealth of every kind which these natural resources offer to men, and which is so far from being exhausted that its vast extent is as yet not even suspected; a knowledge of the natural world that can furnish new truths and destroy accredited errors in the sciences; the increased activity of trade which has given new wings to industry and navigation and, by a necessary chain of influence, to all the sciences and to all the arts; and the strength which this activity has given to free nations to resist tyrants, to enslaved people to break their chains or at least to relax the chains of feudalism: all these are also to be numbered amongst the fortunate consequences of these discoveries. But these discoveries will have repaid humanity what they have cost it only when Europe renounces her oppressive and avaricious system of monopoly; only when she remembers that men of all climes are equally brothers by the guarantee of nature and have not been created to feed the vanity and greed of a few privileged nations; only when she calls upon all people to share her independence, freedom and enlightenment, which she will do once she is alive to her own true interests. Unfortunately, we must still ask ourselves if this revolution will be the honourable fruit of the progress of philosophy or only, as it has hitherto been, the shameful consequence of national jealousies and the excesses of tyranny.

Up to this stage, the crimes of the clergy had gone unpunished. The protestations of oppressed humanity and of outraged reason had been smothered in blood and flames. But the spirit that had inspired these protests was not extinguished, though a terrified silence encouraged men to carry out further monstrous deeds. At last the scandalous practice of farming out the absolution of sins to monks and their selling it in taverns and public places caused a new explosion. Luther, holding in one hand the holy books, pointed out with the other how the pope had arrogated to himself the right of absolving crimes and selling pardons; how he exercised an insolent despotism over bishops who were his equals; how the brotherly breaking of bread of the first Christians had become, under the name of the *mass*, a sort of magic operation and an object of trade; how the priests were condemned to the corruption of irrevocable celibacy; how a barbarous and scandalous law pertained to monks and nuns whose pontifical ambition had flooded the Church and sullied her; how through confession the secrets of laymen were delivered up to the plots and passions of the priests; finally, how God himself played only a small part in the prayers that were lavished on bread, men, bones or statues.

Luther announced to the astonished masses that these revolting institutions were not Christianity, but were its depravity and shame, and that, to be faithful to the religion of Jesus Christ, one must first abjure the religion of the priests. He used in equal measure the weapons of dialectic and learning and the no less powerful ones of ridicule. He wrote both in German and in Latin. The situation was very different from what it had been in the days of the Albigensians or of Jan Hus whose doctrines, unknown outside their own churches, could be so easily denounced: for the German books of the new apostles reached all the important villages of the Empire, while their Latin writings aroused the whole of Europe from the shameful slumber into which superstition had plunged her. Those whose reason had anticipated the reformers in their suggestions but who had been frightened into silence, those who were disturbed by grave doubts, though too terrified to admit them even to themselves, those simpler men who had not realised the full extent of the absurdities of theology, and those who having never reflected on these contested questions were astonished to learn that they must choose between conflicting opinions: all these gave themselves over eagerly to these discussions on which they saw that both their earthly interests and their future felicity depended.

All Christian Europe, from Sweden to Italy, from Hungary to Spain was overrun by the upholders of the new doctrines, and reform would have delivered all the inhabitants of Europe from the yoke of Rome had not the misguided politics of a few princes supported the very sacerdotal sceptre which had so often been laid on the heads of kings.

Their policy, which unfortunately their successors have not yet abjured, was to ruin their own states in order to acquire new ones, and to measure their power by the extent of their territories rather than by the number of their subjects.

Thus, Charles V and Francis I, who were engaged in a struggle for Italy, sacrificed the profit to be derived from reform to their own interest in remaining friendly with the pope.

The emperor, seeing that the princes of the empire favoured opinions which would add to their power and wealth, made himself the protector of the old religion in the hope that a religious war would give him an opportunity to invade their states and to destroy their independence. Francis imagined that, by burning Protestants in his own country and protecting their leaders in Germany, he could keep the pope's good will without losing valuable allies.

But this was not the only motive at work. Despotism also has its instincts, and these instincts had taught kings that, once religious prejudice had been subjected to the examination of reason, men would soon submit political prejudices to the same examination; that when they were enlightened about papal usurpations they would then want enlightenment about royal usurpations; and that the reform of ecclesiastical abuses which was so useful to royal power would carry in its wake that of the more oppressive abuses on which that power itself was founded. Thus, no king of a great nation voluntarily took the side of the reformers. Henry VIII, on whom papal anathema had been pronounced, continued to persecute them; Edward and Elizabeth, who could not attach themselves to papism without declaring themselves usurpers, founded in England a system of belief and manner of worship that was as close to it as possible. The Protestant monarchs of Great Britain have invariably favoured Catholicism whenever it has not threatened them with a pretender to their throne.

In Sweden and Denmark the establishment of Lutheranism was only a necessary precaution in royal eyes to make sure of the expulsion of the Catholic tyrant whom the kings themselves replaced. We see, too, in the Prussian monarchy which was founded by a philosophical prince, that his successor could not hide a secret leaning towards this religion so dear to kings.

Religious intolerance was common to all sects, and they inspired all governments with it. The Papists persecuted all the reformed sects; and these in turn, though full of mutual hatreds, united against the anti-Trinitarians, who in a more rational frame of mind had subjected all dogmas equally, if not to the examination of reason, at least to some form of rational criticism, and had not thought they could only free themselves from some absurdities in order to keep others just as revolting.

This intolerance played into the hands of the Papists. There had long existed in Europe and especially in Italy a class of men who rejected all superstitions, were indifferent to all forms of worship, acknowledged only the supremacy of reason, and regarded all religions as the invention of man; but though they might ridicule religion in private, prudence and practical policy demanded that they paid it all the outward marks of respect. Later, boldness was carried further; and whilst in the schools the misunderstood Aristotelian philosophy was used to perfect the art of theological casuistry and to give an air of subtlety to what would otherwise have appeared absurd, some scholars attempted to found, on the

basis of his genuine doctrine, a system destructive of all religious ideas, a system in which the human soul was regarded as merely a faculty which faded away when life came to an end and in which no other guide or commander of the world was admitted but the necessary laws of nature. They were opposed by the Platonists whose own views, approximating to what has since been called deism, were even more terrifying from the point of view of priestly orthodoxy.

The fear of punishment and torture soon put an end to such imprudent frankness. Italy and France were sullied with the blood of martyrs for the freedom of thought. All sects and governments and every authoritarian body were in accord on this alone: that they were against reason. Reason had to be covered with a veil which hid it from the gaze of tyrants but let it be seen by philosophy.

So it became necessary to retire once more into the timid reserve of that secret doctrine which had never been without a considerable body of adherents. It was widespread among the heads of state and church; and, about the time of the Reformation, the principles of religious Machiavellianism had become the only belief of princes, ministers and pontiffs. Such opinions had even corrupted philosophy. For what morality could really be expected from a system one of whose principles was that the morality of the people must be founded on false opinions, that enlightened men are right to deceive others provided that they supply them with useful errors, and that they may justifiably keep them in the chains that they themselves have known how to break? If the natural equality of men, the cornerstone of their rights, is the basis of all true morality, what can be hoped for from a philosophy one of whose maxims is an open scorn for this equality and these rights? Doubtless this same philosophy made some contribution to the progress of reason, whose reign it prepared in silence, but, as long as it existed alone, it did nothing but substitute hypocrisy for fanaticism and corrupt those who presided over the destinies of states, even when it raised them above prejudice.

The truly enlightened philosophers, strangers to ambition, who allowed themselves to deceive men only with the utmost reluctance and had no wish to see them kept in their errors, would in the natural course of events have embraced the cause of reform, but, rebuffed by finding the same intolerance everywhere, most of them could see no reason why they should expose themselves to the embarrassments of conversion if after this conversion they would be no freer than they had been before. As long as there was any need to simulate a belief in absurdities which they

rejected, they saw little advantage in diminishing in some small degree the number of these absurdities; they even feared that they would give themselves the look of voluntary hypocrisy by this recantation; and so, by remaining attached to the old religion, they strengthened it with the authority of their names.

The spirit that animated the reformers did not lead to true freedom of thought. Each religion allowed, in the country where it dominated, certain opinions only. However, as these diverse beliefs were opposed to each other, there were few opinions that were not attacked or upheld in some part of Europe. Besides, the new religious assemblies had been forced to relax somewhat their dogmatic strictness. They could not without crudely contradicting themselves limit too narrowly the right of free inquiry, since it was by appeal to this very same right that they had justified their own separation from the established religion. Even if they refused to give reason its full freedom, they yet allowed its prison to be less narrow: the chain was not broken but it was less heavy and less constricting. Finally, in those countries where it had been impossible for one religion to oust all others, there was established what the dominant cult in its boldness dared to name tolerance, that is, a licence given by men to other men to believe what their reason inclines them to believe, to do what their conscience orders them to do and to give to their common God the homage that they believe will please him best. One could then profess any tolerated doctrine with a more or less complete frankness.

In this way there arose in Europe a sort of freedom of thought, not for all men, but for Christians; and, indeed, if we except France, it is only Christians who enjoy this freedom wherever it exists today.

But intolerance forced human reason to inquire into those rights which had been too long forgotten, or, rather, which had never been well known or properly explained.

Some generous-hearted men indignant at seeing people oppressed, even in the sanctuary of their conscience, by kings who were either superstitious slaves or the political instruments of the priesthood, dared at last to examine the basis of this priestly power, and they demonstrated to the people this great truth: that liberty is an inalienable good; that tyranny has no prescriptive right; that no convention can tie a nation irrevocably to a single family; that the magistrates, whatever their rights, functions and powers may be, are the servants of the people and not its masters; that the people retain the power to take away authority from them if it is abused or even if the people think that it is no longer in their interests

to leave it where it is, for this authority emanates from the people; and, finally, that the people have the right to punish their magistrates as well as the right to revoke their powers.

Such were the opinions that Althusius and Languet and later Needham and Harrington bravely professed and forcefully expounded. In conformity with the spirit of their times, however, they relied too much and too often on texts, authorities and precedents, and it is obvious that they owed their opinions much more to the elevation of their minds and their strength of character than to any exact analysis of the true principles of the social order.

However, other more timid philosophers were content to insist on an exact parity of rights and duties between people and kings and a mutual obligation to keep their agreement. It was quite possible to depose and punish an hereditary magistrate, but only if he had violated the sacred contract, and the contract itself continued to hold good between the people and his descendants. This doctrine, which swept aside natural right and referred all matters back to positive law, was supported by legal experts and theologians; it was a view that was in harmony with the interests of the powerful and the designs of the ambitious: for it was less a stricture upon power itself than upon those who exercised it. And so it was almost invariably adopted by publicists, and it came to be employed as the justification for revolutions and political dissension.

History shows us at this period little real progress towards liberty but greater strength and order in governments, and among the people a livelier and more just sense of their rights. Laws are better formulated and appear less often to be the vague product of circumstance and caprice; they are made by learned men if not yet by philosophers.

The popular movements and revolutions that had convulsed the states of Italy, England and France were destined to draw the attention of philosophers to that part of politics which consists in observing and predicting the effects of different constitutions, laws and public institutions upon the freedom and prosperity of the people as well as upon the power of states, the preservation of their independence and the form of their governments. Some philosophers, like More and Hobbes, imitated Plato in deducing from certain general principles a plan for a whole system of social order and in constructing a model to which all practice was supposed to conform. Others, like Machiavelli, tried to find, after a profound scrutiny of the facts of history, general rules by means of which they could give themselves the illusion of mastering the future.

Economic science did not yet exist. Princes counted not the number of men but the number of soldiers, and finance was only the art of robbing people without goading them into revolt. Governments interested themselves in commerce only in order to enfeeble it by taxation, restrict it through privileges or dispute its monopoly amongst themselves.

The nations of Europe, busy with the interests which genuinely united them and with those which they imagined divided them, felt the need for the recognition of certain rules among themselves which, even independently of treaties, would control their peaceful relations with each other, and for the invention of others which would be respected in times of war so as to soften its ferocity, diminish its ravages and prevent unnecessary hardship. There existed a science of the law of nations, but unfortunately this law was drawn not from reason and nature, the only authorities that ought to be acknowledged by free nations, but from established customs and the beliefs of antiquity. In all this human rights and justice towards individuals were consulted less than the ambition, the greed and the vanity of governments.

We do not find moralists at this time inquiring into the human heart or analysing man's faculties and sentiments with the aim of discovering the nature, origin, rule and sanction of his duties. On the contrary, we see them using all the subtlety of scholasticism to discover in the case of actions whose morality is in doubt the precise point where innocence ends and sin begins; to determine what authority carries the necessary weight to justify in practice one of these doubtful actions; to enumerate methodically the various sins according to their type and gravity; and, above all, to distinguish those which merit eternal damnation.

It was impossible for there to be any science of morality, since the priests enjoyed the exclusive privilege of interpreting and judging actions. But these very subtleties, ridiculous and scandalous though they were, helped to discover and to assess the morality and motives of different actions; the order and limit of duties; and the principles according to which a choice was to be made if these duties conflict: much as the study of a crude machine may help a clever mechanic to build a new and less imperfect one.

The Reformation by abolishing confession, indulgences, monastic life and priestly celibacy purified the principles of morality, and elevated manners in those countries which embraced it. It delivered them from the expiation of sins by priests, a dangerous encouragement to crime and

from religious celibacy which, being itself the enemy of the domestic virtues, is the destroyer of all virtues.

This stage in our history was more than any other besmirched by terrible atrocities. It was the time of the religious massacres, the holy wars and the depopulation of the New World.

It saw the re-establishment of the old slavery in forms more barbarous than ever and more fecund in unnatural crime; it saw the avarice of traders who trafficked in human life, selling men as merchandise having bought them by treachery, piracy or murder, carrying them to one hemisphere where they could live for the sake of the inhabitants of the other, under circumstances of humiliation and outrage and slow, prolonged suffering.

At the same time hypocrisy filled Europe with butchers and murderers. The monster of fanaticism, angered by its wounds, seemed to redouble its ferocity and to pile up its victims the faster that reason threatened to wrest them from its grip. We can see, however, some of the gentle, courageous virtues reappear to honour and console humanity. History offers us names that can be pronounced without blushing; strong, pure souls, and men of noble character allied to great talent stand out against these scenes of treachery, corruption and carnage. The human race still revolts the philosopher who contemplates its history; but it no longer humiliates him and now offers him hope for the future.

The progress of the sciences was swift and startling. The language of algebra was generalised, simplified and perfected, or rather it was only at this period that it was at all rigorously formed. The first foundations of the general theory of equations were laid down, the nature of the solutions that it gave was investigated and equations of the third and fourth degree were solved.

The ingenious invention of logarithms, which abridge arithmetical operations and facilitate all the applications of mathematics to real objects, extended the sphere of all those sciences in which applications to particular cases are one of the means of comparing a hypothesis or a theory with the facts and so of arriving at the discovery of natural laws. Indeed, in mathematics the length and purely practical complications of calculation set a limit beyond which time and energy cannot advance; a term which without the help of these ingenious abbreviations would mark the limits of the science itself and the frontier which all the efforts of genius could not transcend.

The law of falling bodies was discovered by Galileo, who deduced from it the theory of uniform acceleration and calculated the curve described

by a body thrown into space at a determinate speed and moved by a force constantly acting upon it in parallel directions.

Copernicus revived the correct theory of the system of the universe, which had been forgotten for so long, and eradicated it from anything that was repellent to sensory experience by means of the theory of apparent movements. He set up the extreme simplicity of real movements that results from this system in contrast to the almost fatuous complexity of those demanded by the Ptolemaic hypothesis. The movements of the planets were determined with greater accuracy, and Kepler's genius discovered the form of their orbits and the constant laws that regulate them.

Galileo applied the recent discovery of the telescope perfected by himself to astronomy, and in this way revealed new heavens to the eyes of man. The spots that he observed on the surface of the sun enabled him to discover rotation and he determined the time and the laws of this. He demonstrated the phases of Venus and discovered the four moons that surround Jupiter and accompany it in its vast orbit. He learnt how to measure time exactly by means of the oscillations of a pendulum.

So man owes to Galileo the first mathematical theory of motion that was not at once uniform and rectilinear, and the first knowledge of one of the mechanical laws of nature; he owes the discovery of another of these empirical laws to Kepler, a discovery which is doubly advantageous since it leads to the knowledge of the mechanical law whose result they explain, and supplements this knowledge with what would otherwise never have been attained by man.

The discovery of the weight of air and the circulation of the blood mark the progress of experimental physics, which was born in the school of Galileo, and of anatomy, which was already so advanced as to have become separated from pharmacy.

Natural history, chemistry, despite its fantastic hopes and its puzzling language, medicine and surgery astonish us by the speed of their progress, though they often offend us by the spectacle of the monstrous prejudices that still adhere to them.

Passing over the works of Gesner and Agricola in which there is a great deal of genuine science mixed with a certain amount of error derived both from learned and from vulgar sources, we come to Bernard de Palissy who taught mankind how the quarries from which it hews the materials for its buildings and the rock formations that it knows as mountains, are made up out of the bodies of sea animals and are thus

monuments to the ancient cataclysms that convulsed the globe; and he explained how water is sucked up from the sea by evaporation, is given back to it in the form of rain, and then either soaks through the earth until it reaches the layers of clay or forms glaciers upon the mountains and so sustains the eternal flow of fountains, rivers and seas. Meanwhile, Jean Rey discovered the secret of those combinations of air with metallic substances, the first seed of the brilliant theories that have recently extended the bounds of chemistry.

In Italy the art of epic poetry, painting and sculpture attained a degree of perfection unknown to the Ancients. In the works of Corneille we see that dramatic art in France was close to attaining even greater heights; indeed, if an enthusiasm for antiquity claims a certain superiority of genius for the men who created its masterpieces, it is very difficult for anyone who compares their works with the productions of Italy and France not to perceive the real progress that the art itself has made at the hands of the moderns.

By this time, the Italian language was fully formed, and every day those of other nations lost some vestige of ancient barbarousness.

The influence of metaphysics and grammar was beginning to be felt, and analysis and philosophical explanation were applied more extensively to the rules and common usage governing the formation of words and phrases.

Everywhere during this stage we see reason and authority fighting for supremacy, a battle which prepared and anticipated the triumph of reason.

It is then that the critical spirit was born which alone can make learning really useful. Men still felt the need to know everything that the Ancients had done; but they began to understand that if they were obliged to admire them, they were also permitted to judge them. Reason, which sometimes leant on authority and was more often opposed by it, wished to know what she could expect from it in the way of assistance and what grounds there could be for making the sacrifices that it demanded of her. Those who took authority as the foundation of opinion and the guide to conduct felt how imperative it was for them to make certain of the real strength of their position, so as to avoid the danger of being overwhelmed at the first onslaught of reason.

The practice of writing exclusively in Latin on scientific, philosophical, legal, even historical subjects was, in each country, gradually replaced by the use of the vernacular. This is the moment to examine the influence

of this change on the progress of the human mind, for it made the sciences more popular at the price of making it more difficult for scientists to follow their general progress; it allowed the less educated people of a country to read a book written in that country, but it stood in the way of its being read by the enlightened of all Europe; it relieved a large number of men, thirsty for knowledge, without either the time or the means to acquire an extensive and deep erudition, from the necessity of learning Latin; but it forced the learned to spend more time in the study of several different languages.

We shall show that, once it had become impossible to make Latin a popular language common to all Europe, the continued use of it in the literature of the sciences could have had only a transitory usefulness; that the existence of a sort of scientific language, the same for all nations, alongside the different languages spoken by the ordinary people of each country would have divided men into two classes, perpetuated prejudice and error, and placed an irremovable obstacle in the way of true equality in the use of reason and in the acquisition of necessary truths; and that, if the progress of the masses of the human race had in this way been suspended, ultimately, as in the East, the progress of the sciences themselves would have come to a stop.

For a long time education had been confined to the church and the cloister.

The universities were still dominated by priests. Although they had had to surrender part of their influence to the government, they still retained complete authority over primary and general education, and over the education necessary for all the ordinary professions, for all classes of men, and so exercised control during the years of childhood and youth when the flexible intelligence and uncertain, pliant soul can be shaped at will. All that they conceded to the secular power was the right to direct the study of jurisprudence and medicine, higher education in the sciences, literature and the classical languages; these secular schools were few in number, and only men were sent there who had already been bent under the priestly yoke.

The clergy lost this influence in those countries which had embraced the Reformed religion. In these countries, popular education, though dependent on the government, did not cease to be guided by the theological spirit; but it was not exclusively in the hands of the members of the presbytery. It continued to corrupt men's minds with religious prejudices; but it did not bend them any longer under the yoke of priestly

authority. It still produced fanatics, visionaries and sophists, but it no longer produced slaves to superstition.

Teaching, however, was everywhere in a state of bondage and everywhere exercised a corrupting influence, crippling the minds of children with the weight of religious prejudices and stifling the spirit of liberty in older students with political prejudices.

Not only did anyone who tried to educate himself find the solid and fearful phalanx of all the errors of his country and his century standing between himself and the truth, but the most dangerous of these errors were, so to speak, already part of himself. Every man had to begin by recognising his own errors before he could dispel those of others, and before wrestling with the natural difficulties placed in the way of truth he had, as it were, to refashion his own intelligence. Education had given him some instruction, but before it could be made to serve any useful purpose it had to be purged and purified of the mists in which superstition, in league with tyranny, had enveloped it.

We shall show how these flaws in the educational system, the variety of religious beliefs, the diversity of forms of government placed obstacles of differing degrees of seriousness in the way of the progress of the human mind. It will be shown that this progress became increasingly slow as the problems studied verged upon the province of political and religious interests, so that general philosophy and metaphysics, whose truths directly attacked all superstitious beliefs, encountered far more obstinate resistance than political science, whose advance threatened only the authority of kings or aristocratic senates; and a similar state of affairs can be observed in the progress of the physical sciences.

We shall expatiate upon the ways in which the progress of every science has been affected by the nature of the subject that it studies or of the methods that it employs.

It can be similarly observed how the same science has been differently affected in different countries by the political and natural causes at work. As far as these differences are concerned we shall try to estimate the influence of differences in religion, in the form of government, in the wealth and power of the nation, in its character and geographical position and in the various events of its history. Finally, we shall take into consideration the work of chance in blessing a particular country with one or more of those outstanding men whose influence, while it extends over the whole of humanity, is felt more powerfully within their own nation.

We shall distinguish between the progress of science itself, which can be measured only by the number of known truths, and the progress of a nation in each science, which is to be measured partly in terms of the number of people who are familiar with the more obvious and more important truths and partly in terms of the number and nature of these truths. We have indeed arrived at that point of civilisation where the mass of the people profit from knowledge not only through what they owe to the more enlightened members of their community, but through the uses to which they themselves put it, in defending themselves against error, in anticipating or satisfying their needs, in preserving themselves from the troubles of life or in mitigating them by new pleasures.

The history of the persecution to which the defenders of truth were exposed at this time will not be forgotten. We shall see how such persecution extended from philosophical or political truths to those of medicine, natural history, physics and astronomy. In the eighth century an ignorant pope had persecuted a deacon for having upheld that the earth was round contrary to the opinion of the rhetorician Augustine; in the seventeenth the far more shameful ignorance of another pope handed Galileo over to the Inquisition on the ground that he had proved the daily and yearly movement of the earth. The greatest genius whom modern Italy gave to science, bowed down by illness and infirmity, was obliged under threat of torture and prison to ask God's forgiveness for having led men to a better knowledge of his works and for having taught them how to admire him in the simplicity of the eternal laws by which he governs the universe. Yet the absurdity of the theologians was so palpable that they had to yield to human understanding and permit the belief that the earth moved, provided that it was a *hypothesis* and that faith was not thereby attacked. But the astronomers did precisely the opposite; they believed in the real movement of the earth and calculated it on the *hypothesis* of its immobility.

Three great men have marked the transition from this stage of history to the next: Bacon, Galileo, Descartes.

Bacon revealed the true method of studying nature and of using the three instruments that she has given us for penetrating her secrets: observation, experience and calculation. He asked that the philosopher, cast into the middle of the universe, should begin by renouncing all the beliefs that he had received and even all the notions he had formed, so that he might then recreate for himself, as it were, a new understanding

admitting only of precise ideas, accurate notions and truths whose degree of certainty or probability had been strictly weighed. But Bacon, who possessed the genius of philosophy in the highest degree, was without the genius of science; and these methods for discovering truth, of which he gave no examples, were admired by philosophers but in no way influenced the course of science.

Galileo enriched the sciences by useful and brilliant discoveries. He showed by example how to arrive at a knowledge of the laws of nature by a sure and fruitful method, which did not necessitate sacrificing the hope of success to the fear of error. He founded the first school in which the sciences were studied without any admixture of superstition in favour of either popular prejudices or authority, and where all methods other than experiment and calculation were rejected with philosophical severity. But in limiting himself exclusively to the mathematical and physical sciences, he could not afford mankind that general guidance of which it seemed to stand in need.

This honour was reserved for Descartes, a bold and clever philosopher. Endowed with great genius for the sciences, he joined example to precept and gave a method for finding and recognising truth. He showed how to apply this in his discovery of the laws of dioptrics and the laws of the collision of bodies and finally in the development of a new branch of mathematics which was to move forward the frontiers of the subject.

He wished to extend his method to all the subjects of human thought; God, man and the universe were in turn the objects of his meditations. If his progress in the physical sciences was less certain than Galileo's, if his philosophy was less wise than Bacon's, if he can be reproached with not having learnt sufficiently from the precepts of the one and the practice of the other, to distrust his imagination, to ask questions of nature only by experiment, to believe only in calculation and the observation of the universe instead of fashioning it, to study man instead of speculating about him, still the very audacity of his mistakes served to further the progress of the human race. He stimulated men's minds, and this all the wisdom of his rivals had never done. He commanded men to shake off the yoke of authority, to recognise none save that which was avowed by reason; and he was obeyed, because he won men by his boldness and led them by his enthusiasm.

The human mind was not yet free, but it knew that it was formed to be so. Those who dared to insist that it should be kept in its old chains or to try and impose new ones upon it, were forced to show why it should

submit to them; and from that day onwards it was certain that they would soon be broken.

The ninth epoch

From Descartes to the foundation of the French Republic

We have watched man's reason being slowly formed by the natural progress of civilisation; we have watched superstition seize upon it and corrupt it, and tyranny degrade and deaden the minds of men under the burden of misery and fear.

One nation alone escapes the twofold influence of tyranny and superstition. From that happy land where freedom had only recently kindled the torch of genius, the mind of man, released from the leading strings of its infancy, advances with firm steps towards the truth. But this triumph soon encourages tyranny to return, followed by its faithful companion, superstition, and the whole of mankind is plunged once more into darkness, which seems as if it must last for ever. Yet, little by little, day breaks again; eyes long condemned to darkness catch a glimpse of the light and close again, then slowly become accustomed to it and at last gaze on it without flinching; once again genius dares to walk abroad on the earth, from which fanaticism and barbarism had exiled it.

We have already seen reason lift her chains, shake herself free from some of them, and, all the time regaining strength, prepare for and advance the moment of her liberation. It remains for us to study the stage in which she finally succeeds in breaking these chains, and when, still compelled to drag their vestiges behind her, she frees herself from them one by one; when at last she can go forward unhindered, and the only obstacles in her path are those that are inevitably renewed at every fresh advance because they are the necessary consequence of the very constitution of our understanding – of the connection, that is, between our means of discovering the truth and the resistance that it offers to our efforts.

Religious intolerance had forced seven of the Belgian provinces to throw off the yoke of Spain and form a federal republic. Religious intolerance alone had aroused the spirit of English liberty, which, exhausted by a protracted and bloody civil war, was finally embodied in a constitution that was for long the admiration of philosophers, but owes its preservation merely to the superstition of the English nation and the hypocrisy of

their politicians. And, finally, it was also through priestly persecution that the Swedish nation found courage to reclaim a portion of their rights.

However, in the midst of all these advances, which owed their origin to theological disputes, France, Spain, Hungary and Bohemia saw their feeble liberties extinguished, or so at least it seemed.

It would be vain to look, in those countries which we call free, for that liberty which infringes none of the natural rights of man; a liberty which not only allows man to possess these rights, but allows him to exercise them. For the liberty we find there is based on a system of positive rights, unequally distributed among men, and grants them different privileges according to the town in which they live, the class into which they have been born, the means of which they can dispose and the profession that they follow. A comparative sketch of the curious inequalities to be found in different countries is the best retort that we can make to those who still uphold their virtue or necessity.

But in these same countries the law guarantees individual and civil liberty, so that if man has not there reached a state of perfection, his natural dignity is not degraded; some at least of his rights are recognised; he can no longer be said to be a slave though he can be said to be not truly free.

In those nations where at this time there was, to a greater or lesser extent, a genuine loss of liberty, the political rights enjoyed by the great mass of the people had been confined within such narrow limits that the destruction of the virtually arbitrary power of the aristocracy under which man had groaned seems to have more than compensated for their loss. Man lost the title of citizen, which inequality had rendered little more than a name, but the quality of man was accorded greater respect; royal despotism saved him from feudal oppression, and relieved him from a state of humiliation all the more painful because the awareness of his condition was constantly kept alive in him by the number and actual presence of his tyrants. The system of laws tended to improve, both in those states whose constitution was partly free and in those ruled by despots: in the former, because the interests of those who exercised the real power did not invariably conflict with the interests of the people; in the latter, because the interests of the despot were often indistinguishable from those of public prosperity, or because the despot's endeavours to destroy the vestiges of feudal or clerical power had imparted to the law a spirit of equality, whose inspiration may have been the desire to establish equality in slavery, but whose effects were often salutary.

We shall give a detailed exposition of the causes that have produced in Europe a kind of despotism for which there is no precedent in earlier ages or in other parts of the world, a despotism in which an all but arbitrary authority, restrained by public opinion, controlled by enlightenment, tempered by self-interest, has often contributed to the progress of wealth, industry and education, and sometimes even to that of liberty.

Manners have become less violent through the weakening of the prejudices that had maintained their savagery, through the influence of the *spirit of industry and commerce* which is inimical to unrest and violence as the natural enemies of wealth, through the sense of horror inspired by the none too distant picture of the barbarism of the preceding stage, through a wider diffusion of the *philosophical ideas of equality and humanity*, and, finally, through the influence, slow but sure, of the general progress of enlightenment.

Religious intolerance remains, but more as an instrument of human prudence, as a tribute to popular prejudice or as a precaution against popular unrest. Its fury abates; the fires at the stake are seldom lit and have been replaced by a form of oppression that, if it is often more arbitrary, is less barbarous; and of recent years the persecutions have become much rarer, and the result rather of complacency or habit. Everywhere, and in every respect, governmental practice has slowly and regretfully followed the progress of public opinion and even of philosophy.

Indeed, if in the moral and political sciences there is always a large interval between the point to which philosophers have carried the progress of enlightenment and the degree of enlightenment attained by the average man of education (and it is the body of beliefs held in common by such men that constitutes the generally accepted creed known as public opinion), those who direct public affairs and who immediately influence the fate of the common people, under whatever constitution they may hold their powers, are very far from rising to the level of public opinion; they follow its advance, without ever overtaking it and are always many years behind it and therefore always ignorant of many of the truths that it has learned.

This sketch of the progress of philosophy and of the dissemination of enlightenment, whose more general and more evident effects we have already examined, brings us up to the stage when the influence of progress upon public opinion, of public opinion upon nations or their leaders, suddenly ceases to be a slow, imperceptible affair and produces a revolution in

the whole order of several nations, a certain promise of the revolution that must one day include in its scope the whole of the human race.

After long periods of error, after being led astray by vague or incomplete theories, publicists have at last discovered the true rights of man and how they can all be deduced from the single truth: that *man is a sentient being, capable of reasoning and of acquiring moral ideas*.

They have seen that the maintenance of these rights was the sole object of men's coming together in political societies, and that the social art is the art of guaranteeing the preservation of these rights and their distribution in the most equal fashion over the largest area. It was felt that in every society the means of assuring the rights of the individual should be submitted to certain common rules, but that the authority to choose these means and to determine these rules could belong only to the majority of the members of the society itself; for in making this choice the individual cannot follow his own reason without subjecting others to it, and the will of the majority is the only mark of truth that can be accepted by all without loss of equality.

Each man can in fact genuinely bind himself in advance to the will of the majority which then becomes unanimous; but he can bind only himself; and he cannot engage even himself towards this majority when it fails to respect the rights of the individual, after having once recognised them.

Here we see at once the rights of the *majority* over society or its members, and the limits of these rights. Here we see the origin of that unanimity which allows the decisions taken by the majority alone to impose an obligation upon all; an obligation which ceases to be legitimate when, with a change in the individuals constituting the majority, the sanction of unanimity no longer exists. Doubtless there are issues on which the decision of the majority is likely to be in favour of error and against the interests of all; but it is still this majority that must decide which issues are not to be subjected to its own direct decision; it is the majority that must appoint those persons whose judgement it considers to be more reliable than its own; it is the majority that must lay down the procedure that it considers most likely to conduct them to the truth; and it may not abdicate its authority to decide whether the decisions they take on its behalf do or do not infringe the rights that are common to all.

So, in the face of such simple principles, we see the disappearance of the belief in the existence of a contract between the people and their lawgivers, which can be annulled only by mutual consent or by the defection

of one of the parties; and along with it there disappeared the less servile but no less absurd opinion according to which a nation was forever chained to its constitution once this constitution had been established – as though the right to change it were not the guarantee of every other right, and as though human institutions, which are necessarily defective and capable of perfection as men become more enlightened, could be condemned to remain forever in their infancy. Man was thus compelled to abandon that astute and false policy, which, forgetful of the truth that all men possess equal rights by nature, would seek to apportion those rights unequally between countries, according to the character or prosperity of a country, the conditions of its industry and commerce, and unequally between men, according to a man's birth, fortune or profession, and which then calls into being conflicting interests and opposing forces to restore the balance, measures which would have been unnecessary without this policy and which are in any event impotent to control its more dangerous tendencies.

Nor did men any longer dare to divide humanity into two races, the one fated to rule, the other to obey, the one to deceive, the other to be deceived. They had to recognise that all men have an equal right to be informed on all that concerns them, and that none of the authorities established by men over themselves has the right to hide from them one single truth.

These principles, which the noble Sydney paid for with his blood and on which Locke set the authority of his name, were later developed by Rousseau with greater precision, breadth and energy, and he deserves renown for having established them among the truths that it is no longer permissible to forget or to combat. Man has certain needs and also certain faculties with which to satisfy them; from these faculties and from their products, modified and distributed in different ways, there results an accumulation of wealth out of which must be met the common needs of mankind. But what are the laws according to which this wealth is produced or distributed, accumulated or consumed, increased or dissipated? What, too, are the laws governing that general tendency towards an equilibrium between supply and demand from which it follows that, with any increase in wealth, life becomes easier and men are happier, until a point is reached when no further increase is possible; or that, again, with any decrease in wealth, life becomes harder, suffering increases, until the consequent fall in population restores the balance? How, with all the astonishing multifariousness of labour and production, supply and demand,

with all the frightening complexity of conflicting interests that link the survival and well-being of one individual to the general organisation of societies, that make his well-being dependent on every accident of nature and every political event, his pain and pleasure on what is happening in the most remote corner of the globe, how, with all this seeming chaos, is it that, by a universal moral law, the efforts made by each individual on his own behalf minister to the welfare of all, and that the interests of society demand that everyone should understand where his own interests lie, and should be able to follow them without hindrance?

Men, therefore, should be able to use their faculties, dispose of their wealth and provide for their needs in complete freedom. The common interest of any society, far from demanding that they should restrain such activity, on the contrary, forbids any interference with it; and as far as this aspect of public order is concerned, the guaranteeing to each man his natural rights is at once the whole of social utility, the sole duty of the social power, the only right that the general will can legitimately exercise over the individual.

But it is not enough merely that this principle should be acknowledged by society; the public authority has specific duties to fulfil. It must establish by law recognised measures for the determination of the weight, volume, size and length of all articles of trade; it must create a coinage to serve as a common measure of value and so to facilitate comparison between the value of one article of trade and that of another, so that having a value itself, it can be exchanged against anything else that can be given one; for without this common measure trade must remain confined to barter and can acquire very little activity or scope.

The wealth produced each year provides a portion for disposal which is not required to pay for either the labour that has produced it or the labour required to ensure its replacement by an equal or greater production of wealth. The owner of this disposable portion does not owe it directly to his work; he possesses it independently of the use to which he puts his faculties in order to provide for his needs. Hence, it is out of this available portion of the annual wealth that the public authority, without violating anyone's rights, can establish the funds required for the security of the state, the preservation of peace within its borders, the protection of individual rights, the exercise of those powers established for the formation or execution of the law and, finally, the maintenance of public prosperity.

There are certain undertakings and institutions which are beneficial to society in general and which it therefore ought to initiate, control and supervise; these provide services which the wishes and interests of individuals cannot provide by themselves, and which advance the progress of agriculture, industry or trade or the prevention or alleviation of inevitable natural hardships or unforeseen accidents.

Up to the stage of which we speak, and even for a long time afterwards, these various undertakings were left to chance, to the greed of governments, to the skill of charlatans or to the prejudices or self-interest of powerful sections of the community. A disciple of Descartes, however, the famous and ill-starred John de Witt, felt that political economy ought, like every other science, to submit itself to the principles of philosophy and the rigour of calculation.

Political economy made little progress until the Peace of Utrecht gave Europe the promise of lasting peace. From then onwards one notices an increasing intellectual interest taken in this hitherto neglected subject; and the new science was advanced by Stewart, Smith and more particularly the French economists, at least as far as precision and the purity of its principles are involved, to a point that one could hardly have hoped to reach so soon after such a long period of indifference.

But this progress in politics and political economy was caused primarily by the progress in general philosophy and metaphysics, if we take the latter word in its broadest sense.

Descartes had brought philosophy back to reason; for he had understood that it must be derived entirely from those primary and evident truths which we can discover by observing the operations of the human mind. Soon, however, his impatient imagination snatched it from the path that he had traced for it, and for a time it seemed that philosophy had regained her independence only to be led astray by new errors.

At last, Locke grasped the thread by which philosophy should be guided; he showed that an exact and precise analysis of ideas, which reduces them step by step to other ideas of more immediate origin or of simpler composition, is the only way to avoid being lost in that chaos of incomplete, incoherent and indeterminate notions which chance presents to us at hazard and we unthinkingly accept.

By this same analysis he proved that all ideas are the result of the operations of our minds upon sensations we have received, or, to put it more exactly, that they are the combinations of these sensations presented to us

simultaneously by the faculty of memory in such a way that our attention is arrested and our perception is thereby limited to no more than a part of such compound sensations.

He showed that if we attach a word to each idea after analysing it and circumscribing it, we shall succeed in remembering the idea ever afterwards in a uniform fashion; that is to say, the idea will always be formed of the same simple ideas, it will always be enclosed within the same limits and it can in consequence be used in a chain of reasoning without any risk of confusion. On the other hand, if a word is used in such a way that it does not correspond to a determinate idea, it can at different times arouse different ideas in the same person's mind, and this is the most fecund source of error in reasoning.

Locke, finally, was the first man who dared to set a limit to human understanding, or rather to determine the nature of the truths that it can come to know and of the objects it can comprehend.

This method was soon adopted by all philosophers and, by applying it to moral science, to politics and to social economy, they were able to make almost as sure progress in these sciences as they had in the natural sciences. They were able to admit only proven truths, to separate these truths from whatever as yet remained doubtful and uncertain, and to ignore whatever is and always will be impossible to know.

Similarly, the analysis of our sentiments leads to our finding, in the development of our capacity to feel pleasure and pain, the origin of our moral ideas, the foundation of those general truths which, resulting from these ideas, determine the necessary and immutable laws of justice and injustice, and, finally, the motives that we have for conforming to them, motives which spring from the very nature of our sensibility, from what might be called our moral constitution.

This metaphysical method became virtually a universal instrument. Men learnt to use it in order to perfect the methods of the physical sciences, to throw light on their principles and to examine the validity of their proofs; and it was extended to the examination of facts and to the rules of taste.

Thus, it was applied to all the various undertakings of human understanding, and by means of it the operations of the mind in every branch of knowledge were subjected to analysis, and the nature of the truths and the kind of certainty we can expect to find from each of these branches of knowledge was thereby revealed. It is this new step in philosophy that has forever imposed a barrier between mankind and the errors of

its infancy; a barrier that should save it from relapsing into its former errors under the influence of new prejudices, just as it should assure the eventual eradication of those that still survive unrecognised, and should make it certain that any that may take their place will exercise only a faint influence and enjoy only an ephemeral existence.

In Germany, however, a man of vast and profound genius laid the foundations of a new doctrine. His ardent and passionate imagination could not rest satisfied with a modest philosophy and leave unsolved those great questions about the spirituality or the survival of the human soul, about man's freedom or the freedom of God, about the existence of pain and evil in a universe governed by an all-powerful intelligence whose wisdom, justice and loving kindness ought, it would seem, to exclude the possibility of their existence. He cut the knot which the most skilful analysis would never have been able to untie and constructed the universe from simple, indestructible, entities equal by their very nature. The relations of each of these entities with all the others, which with it form part of the system of the universe, determine those qualities of it whereby it differs from every other. The human soul and the least atom of a block of stone are, each of them, one of these monads, and they differ only in the different place assigned to them in the order of the universe. Out of all the possible combinations of these beings an infinite intelligence has preferred one, and could have preferred one only, the most perfect of all. If that which exists offends us by the misery and crime that we see in it, it is still true that any other combination would have had more painful results.

We shall explain this system which, being adopted, or at least upheld, by Leibniz's compatriots, has retarded the progress of philosophy amongst them. One entire school of English philosophers enthusiastically embraced and eloquently defended the doctrine of optimism, but they were less subtle and less profound than Leibniz, for whereas he based his doctrine on the belief that an all-powerful intelligence, by the very necessity of its nature, could choose only the best of all possible worlds, the English philosophers sought to prove their doctrine by appealing to observation of the particular world in which we live, and thereby sacrificing all the advantages possessed by this system as long as it remains abstract and general; they lost themselves in details, which were too often either revolting or ridiculous.

In Scotland, however, other philosophers finding that the analysis of the development of our actual faculties led to no principle that could provide a sufficiently pure or solid basis for the morality of our actions,

thought to attribute a new faculty to the human soul, distinct from but associated with those of feeling or thinking, a faculty whose existence they proved only by showing that they could not do without it. We shall recount the history of these opinions and shall show how, if they have retarded the progress of philosophy, they have advanced the dissemination of philosophical ideas.

Up till now we have shown the progress of philosophy only in the men who have cultivated, deepened and perfected it. It remains for us to show what have been its effects on public opinion; how reason, while it learnt to safeguard itself against the errors into which the imagination and respect for authority had so often led it, at last found a sure method of discovering and recognising truth; and how at the same time it destroyed the prejudices of the masses which had for so long afflicted and corrupted the human race.

At last man could proclaim aloud his right, which for so long had been ignored, to submit all opinions to his own reason and to use in the search for truth the only instrument for its recognition that he has been given. Every man learnt with a sort of pride that nature had not forever condemned him to base his beliefs on the opinions of others; the superstitions of antiquity and the abasement of reason before the transports of supernatural religion disappeared from society as from philosophy.

Soon there was formed in Europe a class of men who were concerned less with the discovery or development of the truth than with its propagation, men who whilst devoting themselves to the tracking down of prejudices in the hiding places where the priests, the schools, the governments and all long-established institutions had gathered and protected them, made it their life's work to destroy popular errors rather than to drive back the frontiers of human knowledge – an indirect way of aiding its progress which was no less fraught with peril, nor less useful.

In England, Collins and Bolingbroke, in France, Bayle, Fontenelle, Voltaire, Montesquieu and the schools founded by these famous men, fought on the side of truth, using in turn all the weapons with which learning, philosophy, wit and literary talent can furnish reason; using every mood from humour to pathos, every literary form from the vast erudite encyclopedia to the novel or the broadsheet of the day; covering truth with a veil that spared weaker eyes and excited one to guess what lay beyond it; skilfully flattering prejudices so as to attack them the better; seldom threatening them, and then always either only one in its entirety or several partially; sometimes conciliating the enemies of reason

by seeming to wish only for a half-tolerance in religious matters, only for a half-freedom in politics; sparing despotism when tilting against the absurdities of religion, and religion when abusing tyranny; yet always attacking the principles of these two scourges even when they seemed to be against only their more revolting or ridiculous abuses, and laying their axes to the very roots of these sinister trees when they appeared to be lopping off a few stray branches; sometimes teaching the friends of liberty that superstition is the invincible shield behind which despotism shelters and should therefore be the first victim to be sacrificed, the first chain to be broken, and sometimes denouncing it to the despots as the real enemy of their power, and frightening them with stories of its secret machinations and its bloody persecutions; never ceasing to demand the independence of reason and the freedom of the press as the right and the salvation of mankind; protesting with indefatigable energy against all the crimes of fanaticism and tyranny; pursuing, in all matters of religion, administration, morals and law anything that bore the marks of tyranny, harshness or barbarism; invoking the name of nature to bid kings, captains, magistrates and priests to show respect for human life; laying to their charge, with vehemence and severity, the blood that their policy or their indifference still spilled on the battlefield or on the scaffold; and finally, taking for their battle cry: *reason, tolerance, humanity*.

Such was the new philosophy: an object of common hatred to all those many sections of society which owe their existence to prejudice, their survival to error, their power to credulity; welcomed nearly everywhere, but persecuted nonetheless; numbering kings, priests, great men and lawyers among its disciples and among its enemies. Its leaders were, in general, astute enough to escape vengeance, although exposing themselves to hatred; and to hide from persecution, though remaining sufficiently in evidence to lose none of the glory.

A government would often reward them with one hand, and pay their slanderers with the other; proscribe them, and feel honoured that they had been born on its soil; punish their opinions, and yet feel humiliated if suspected of not sharing them.

These opinions were to become those of all enlightened men, professed by some, dissimulated by others, with a hypocrisy whose transparency varied with their strength or timidity of character, and which was dependent on whether they yielded to the interests of their profession or to those of their vanity. But already the interests of vanity were so strong that, in place of the profound dissimulation of preceding ages,

men were content with a prudent reserve for themselves and often even in others.

We shall trace the progress of this philosophy in different parts of Europe where it was soon rapidly diffused, despite governmental and priestly inquisitions, by the almost universal medium of the French language. We shall show how skilful policy and superstition recruited against it every motive for mistrusting reason that human ingenuity could suggest, every argument that demonstrated its weakness and its limitations, and how people contrived to employ even total scepticism in the service of credulity.

That simple system which regarded the enjoyment of an unlimited freedom as the surest encouragement to trade and industry; which delivered the masses from the destructive scourge and humiliating yoke of taxes unjustly imposed, and extravagantly and often cruelly raised, and substituted for them just, equal and almost imperceptible contributions; which linked the state's true power and wealth to the well-being of the individual and a respect for his rights; which bound together in bonds of mutual happiness the different classes into which societies are naturally divided; which preached the comforting doctrine of the brotherhood of man, whose gentle harmony should no longer be upset by the self-interest of nations: all these principles, attractive on account of their nobility, simplicity and breadth of vision, were propagated enthusiastically by the French economists. Their success was less prompt and less general than that of the philosophers, for the prejudices they had to fight were less crude and the errors more subtle. They had to enlighten before they could disabuse of error, and to teach common sense before they could employ it as an arbiter.

If, however, they were able to win only a small number of converts to their doctrine in its entirety, if people were frightened of the universality of their maxims and the inflexibility of their principles, and if they themselves harmed their cause by affecting an obscure and dogmatic manner of exposition, by appearing to favour free trade at the expense of political liberty and by presenting in too magisterial and dogmatic a fashion certain parts of their system that they had insufficiently investigated, at least they succeeded in showing how odious and despicable were those cowardly, crafty and corrupt political doctrines which looked for the prosperity of a nation in the impoverishment of its neighbours, in the short-sighted policy of a protectionist regime and in the petty calculations of a tyrannical exchequer.

The salutary influence of the new truths with which genius had enriched philosophy, politics and public economy, and which had been adopted more or less generally by enlightened men, was felt far afield.

The art of printing had spread so widely and had so greatly increased the number of books published; the books that were published catered so successfully for every degree of knowledge, or industry or income; they were so adapted to every taste, or cast of mind; they presented such easy and often such pleasant means of instruction; they opened so many doors to truth that it was no longer possible that they should all of them be closed again, that there was no class and no profession from which the truth could be withheld. And so, though there remained a great number of people condemned to ignorance, either voluntary or enforced, the boundary between the cultivated and the uncultivated had been almost entirely effaced, leaving an insensible gradation between the two extremes of genius and stupidity.

Thus, an understanding of the natural rights of man, the belief that these rights are inalienable and indefeasible, a strongly expressed desire for liberty of thought and letters, of trade and industry, and for the alleviation of the people's suffering, for the proscription of all penal laws against religious dissenters and the abolition of torture and barbarous punishments, the desire for a milder system of criminal legislation and jurisprudence which should give complete security to the innocent, and for a simpler civil code, more in conformity with reason and nature, indifference in all matters of religion now finally ranked among superstitions and political impostures, a hatred of hypocrisy and fanaticism, a contempt for prejudice, zeal for the propagation of enlightenment: all these principles, gradually filtering down from philosophical works to every class of society whose education went beyond the catechism and the alphabet, became the common faith, the badges of all those who were neither Machiavellians nor fools. In some countries these principles formed a public opinion sufficiently widespread for even the mass of the people to show a willingness to be guided by it and to obey it. For the sentiment of humanity, a tender and active compassion for all the misfortunes that afflict the human race and a horror of anything within public institutions, or that in the acts of governments or the private actions of individuals added new pains to those that are natural and inevitable, were the natural consequences of those principles; and this sentiment exhaled from all the writings and all the speeches of the time, and already its happy

influence had been felt in the laws and the public institutions, even of those nations still subject to despotism.

The philosophers of different nations who considered the interests of the whole of humanity without distinction of country, race or creed, formed a solid phalanx banded together against all forms of error, against all manifestations of tyranny, despite their differences in matters of theory. Activated by sentiments of universal philanthropy, they fought injustice even when it occurred in countries other than their own and could not harm them personally; they fought injustice even when it was their own country that was guilty of acts against others; they raised an outcry in Europe against the crimes of greed that sullied the shores of America, Africa and Asia. English and French philosophers considered themselves honoured to be called the *friends* of the black races whom their foolish tyrants disdained to consider as members of the human race. In France, writers lavished encomiums on the new-won tolerance accorded in Russia and Sweden, whilst in Italy Beccaria denounced the barbarous tenets of French jurisprudence. In France, writers sought to free England from her commercial prejudices and her superstitious respect for the vices of her constitution and her laws, whilst the worthy Howard denounced to the French the callous indifference which was causing the death of so many human victims in their prison cells and hospitals.

Violence or seduction on the part of governments, priestly intolerance and even national prejudices had all lost their deadly power to silence the voice of truth, and nothing could now protect the enemies of reason or the oppressors of freedom from a sentence to which the whole of Europe would soon subscribe.

Finally, we see the rise of a new doctrine which was to deal the final blow to the already tottering structure of prejudice: the doctrine of the indefinite perfectibility of the human race of which Turgot, Price and Priestley were the first and the most brilliant apostles. This doctrine belongs to the tenth stage of our history, and there we shall examine it in greater detail. But here we must describe the origin and the progress of a false philosophy against which the support of that doctrine is so necessary if reason is to triumph.

Born of pride in some and of self-interest in others, conniving at the perpetuation of ignorance and the continued reign of error, it has had its numerous adherents ready to corrupt men's reason with brilliant paradoxes or to lull it into the comfortable indolence of absolute Pyrrhonism; so to despise the human race as to teach it that the progress of knowledge

would be not only useless but dangerous both to its happiness and to its freedom; ready to infuse it with a false enthusiasm and grandiose illusions about a new species of wisdom that would absolve virtue from the need of enlightenment and common sense from the verdict of fact; ready, on the one hand, to speak of philosophy and the sciences as subjects too arduous for a mere human being with limited powers, at the mercy of his wants, weighed down with the pressing cares of daily life; and, on the other hand, to pour scorn on these sciences as a heap of uncertain and extravagant speculations, and to maintain that in all matters the skill, the practical experience of the statesman should be preferred to them. The adherents of this philosophy chose the moment when knowledge was progressing more rapidly than ever before to complain incessantly of its decline; the moment when men were at last beginning to remember their rights and to employ their reason, to deplore the degeneration of mankind: they even went so far as to predict that by a swing of the pendulum mankind was about to plunge once more into barbarism, ignorance and slavery, just when everything combined to show that men had left these evils behind them forever. Indeed, it seemed that they were either humiliated by the progress of mankind because they had made no contribution towards it, or terrified because it presaged their fall from power and importance.

Moreover, some charlatans, less foolish than those who were still clumsily trying to shore up the fabric of ancient superstitions whose foundations had been undermined by philosophy, endeavoured to construct out of their ruins a religious system in which reason would be called upon to make only a partial submission and would remain free to believe what she wished, as long as she consented to believe something incomprehensible. Others tried through secret societies to revive the forgotten mysteries of ancient theurgy; abandoning the masses to their errors while chaining their disciples in new superstitions, they had the audacity to hope that they might bring back, for the benefit of a few initiates, the ancient tyranny of the pontiff kings of India and Egypt. But philosophy, resting on the unshakable foundations prepared for her by science, opposed to their attempts a wall against which they broke in vain.

A comparison of the attitude of mind I have already described with the forms of government prevalent at that time would have made it easy to foresee that a great revolution was inevitable, and that there were only two ways in which it could come about; either the people themselves would establish the reasonable and natural principles that philosophy had

taught them to admire, or governments would hasten to anticipate them and carry out what was required by public opinion. If the revolution should come about in the former way it would be swifter and more thorough, but more violent; if it should come about in the latter way, it would be less swift and less thorough, but also less violent: if in the former way, then freedom and happiness would be purchased at the price of transient evils; if in the latter, then these evils would be avoided, but it might be at the price of long delaying the harvest of the fruits that the revolution must, nevertheless, inevitably bear. The ignorance and corruption of the governments of the time saw that it came about in the former way, and the human race was avenged by the swift triumph of liberty and reason.

Simple common sense taught the inhabitants of the British colonies that Englishmen born beyond the Atlantic Ocean had been endowed by nature with exactly the same rights as other Englishmen born under the meridian of Greenwich, and that a difference of 70 degrees of longitude was not enough to change these rights. They had, perhaps, a better idea than most Europeans of what were the rights common to every member of the human race and amongst them they included the right not to pay taxes without consent. But the British government affected to believe that God had created America, as he had created Asia, for the pleasure of the inhabitants of London; for it wanted to have in its power a vassal nation beyond the seas that, when the time came, could be used to crush revolt in England. It therefore ordered the compliant representatives of the English people to violate the rights of America, and to impose taxation on her without asking her consent. America proclaimed that this injustice released her from the obligations binding her to England, and she declared her independence.

We see, then, for the first time a great people delivered from all its chains, giving itself in peace the laws and the constitution that it believed most likely to bring it happiness. Its geographical situation and its old political form obliging it to form a federal republic, there were at once set up thirteen republican constitutions, each based on a solemn recognition of the natural rights of man and having for its chief end the preservation of these rights. We shall sketch the form of these constitutions and show how much they owed to the progress of the political sciences; and we shall show how they were tainted with the prejudices that those who drafted them had imbibed in their youth: how, for example, their simplicity was impaired by the determination to preserve a balance of power within the state, and how they had as their principle the identity of interests rather

than the equality of rights. We shall demonstrate not only that this principle of the identity of interests, once made the basis for political rights, is a violation of the rights of those who are thereby debarred from a complete exercise of them, but also that this identity ceases to exist once it gives rise to genuine inequality. We shall insist on this point because the fallacy involved in accepting this principle is the only one still likely to be dangerous, since it is the only one to which intelligent men are not yet wholly alive. We shall show how the American republics put into practice the idea, which was still new even in theory, of the necessity to establish by law a regular and peaceful procedure for reforming the constitution itself, and of distinguishing the authority entrusted with such reforms from the ordinary legislative authority.

But in the war that arose between two enlightened peoples, of which one defended the natural rights of humanity whilst the other opposed to it the impious doctrine that these rights could be submitted to prescription, to political interests, to written conventions, the issue was pleaded at the bar of public opinion before the whole of Europe, and the rights of men were nobly upheld, and expounded without restriction or reserve, in writings that circulated freely from the shores of the Neva to those of the *Guadalquivir*. Reports of this great debate penetrated to the most oppressed countries and the most isolated settlements, and the men who lived there were astonished to hear that they had rights. They learned what they were and they learned that other men had had the courage to defend them or to win them back.

The American Revolution, then, was about to spread to Europe; and if there existed a country where sympathy with the American cause had diffused more widely than elsewhere its writings and its principles, a country that was at once the most enlightened and the most enslaved of lands, a country that possessed at the same time the most enlightened philosophers and the most crassly and insolently ignorant government, a country whose laws were so far below the level of public intelligence that not even patriotism or prejudice could attach the people to its ancient institutions, was not this country destined by the very nature of things to start that revolution which the friends of humanity awaited with such impatience and such high hopes? It was inevitable, then, that the revolution should begin in France.

The maladroitness of her government precipitated it, her philosophers guided its principles and the power of her people destroyed the obstacles which might have stood in its way.

The revolution in France was more far-reaching than that in America and therefore more violent: for the Americans, who were content with the civil and criminal code that they had received from England; who had no vicious system of taxation to reform; and no feudal tyrannies, no hereditary distinctions, no rich, powerful and privileged corporations, no system of religious intolerance to destroy, limited themselves to establishing a new authority in place of that which had been exercised up till then by the British. None of these innovations affected the ordinary people or changed the relations between individuals. In France, on the contrary, the revolution was to embrace the entire economy of society, change every social relation and find its way down to the furthest links of the political chain, even down to those individuals who, living in peace on their private fortune or on the fruits of their labour, had no reason to participate in public affairs – neither opinion nor occupation nor the pursuit of wealth, ambition or fame.

The Americans, who gave the impression that they were fighting only against the tyrannical prejudices of the mother country, had the rivals of England as their allies; and, at the same time, other powers, jealous of her wealth and her pride, lent the support of their good will to the triumph of justice so that the whole of Europe was united against the oppressor. The French, on the contrary, attacked at once the despotism of kings, the political inequality of any constitution only partly free, the pride of the nobility, the domination, intolerance and wealth of the priesthood, and the abuses of the feudal system, all of which are still rampant in most of Europe, so that the European powers inevitably united on the side of tyranny. Consequently, all that France found raised in her favour were the voices of a few wise men and the timid prayers of the down-trodden masses, and even this support calumny endeavoured to wrest from her.

We shall show in what ways the principles from which the constitution and laws of France were derived were purer, more precise and more profound than those that guided the Americans; how they more successfully escaped every kind of prejudice; how the equality of rights was nowhere replaced by the identity of interest, which is only a feeble and hypocritical substitute; how the theory of the limitation of powers took the place of that futile balance of powers which had so long been admired; and how for the first time in a great nation necessarily divided into a large number of isolated factions, men had the courage to allow the people to exercise their sovereign right: the right to obey only those laws the procedure for whose enactment is sanctioned by their direct assent, even if the actual

enactment is delegated to their representatives; laws which, if the people should find them injurious to their interests or rights, they can revoke by the legitimate assertion of their sovereign will.

From the moment when the genius of Descartes gave men's minds that general impetus which is the first principle of a revolution in the destinies of the human race, to the happy time of complete and pure social liberty when man was able to regain his natural independence only after having lived through a long series of centuries of slavery and misery, the picture of the progress of the mathematical and physical sciences reveals an immense horizon whose different parts must be distributed and ordered if we wish to grasp the significance of the whole and properly observe its relations.

Not only did the application of algebra to geometry become a fruitful source of discoveries in these two sciences, but in proving by this great example how in general the methods of calculating magnitudes could be extended to all questions that were concerned with the measuring of extension, Descartes announced in advance that they would be applied with equal success to all the objects whose relations are capable of precision; and this great discovery, showing for the first time this final objective of the sciences, which is to subject all truths to the rigour of calculation, gave hope of reaching it and afforded a glimpse of the means towards that end.

Soon this discovery was followed by the discovery of a new calculus, showing how to find the rate of increase or decrease of a variable quantity, or to rediscover the quantity itself from the knowledge of this rate, regardless of whether one imputes a finite magnitude to this increase, or whether the rate is to be determined for a given instant – that is, when the increase is nil; a method which, as it applies to all combinations of variable magnitudes and to all hypotheses concerning their variations, also allows us to determine, for all objects whose changes are capable of precise measurement, either the relations between the elements when only those between the objects are known, or the relations between the objects when only those between the elements are known.

We owe to Newton and to Leibniz the invention of these calculi for which the work of the geometers of the previous generation had prepared the way. Their continuous progress for more than a century has been the work of several men of genius whose glory they made. They present to the eyes of the philosopher, who can observe them even without being able to follow them, an imposing monument to the power of the human intelligence.

When we come to describe the formation and the principles of the language of algebra, the only really exact and analytical language yet in existence, the nature of the technical methods of this science and how they compare with the natural workings of the human understanding, we shall show that even though this method is by itself only an instrument pertaining to the science of quantities, it contains within it the principles of a universal instrument, applicable to all combinations of ideas.

Rational mechanics soon became an extensive and profound science. The true laws of the collision of bodies about which Descartes had been mistaken finally became known.

Huygens discovered the laws of circular motion. At the same time he furnished the method of determining to what circle each element of any curve ought to belong. By combining these two theories Newton discovered the theory of curvilinear motion and applied it to those laws which Kepler had found to be followed by the planets in their elliptical orbits.

It was discovered that a planet, imagined to be projected into space at a certain moment with a certain speed and in a predetermined direction, described an ellipse round the sun by reason of a force acting upon it and inversely proportional to the square of the distance. The same force keeps the satellites in their orbits round the principal planet. And it extends to the entire system of heavenly bodies and acts reciprocally between all the elements composing them.

The regularity of planetary ellipses is disturbed by this force and the calculus explains in detail these perturbations. It acts upon the comets for which the same theory holds, and determines their orbits and predicts their return. The movements we notice in the axes of rotation of the earth and of the moon prove once again the existence of this universal force. It is finally the cause of the weight of bodies on the earth, in which it appears to be constant because we cannot observe them at sufficiently varied distances from the centre of action.

Thus, man at last discovered one of the physical laws of the universe; a law that has hitherto remained unique, like the glory of the man who revealed it.

A hundred years of labour have confirmed that law which appears to govern all celestial phenomena to a degree that is, so to say, miraculous. Every time that a phenomenon appears not to come under that law, this uncertainty soon becomes the occasion of a new triumph.

Philosophy is nearly always obliged to look into the writings of a man of genius in order to find the secret thread that guided him; but in this

case, interest, inspired by admiration, has discovered and preserved some precious stories which enable us to follow Newton's progress step by step. These will be useful to us in showing how the happy conjunctions of chance combined with the efforts of genius to lead to a great discovery, and how less favourable conjunctions might have retarded them or reserved them for other hands.

But Newton perhaps did more for the progress of the human mind than discover this general law of nature; he taught men to admit in physics only precise and mathematical theories, which account not merely for the existence of a certain phenomenon but also for its quantity and extension. Nevertheless, he was accused of reviving the occult qualities of the Ancients because he confined himself to locating the general cause of celestial phenomena in one simple fact, whose incontestable reality was proved by observation. And this accusation itself proves how much the methods of science still stood in need of enlightenment from philosophy.

A host of problems of statistics and dynamics had been successively formulated and solved when D'Alembert discovered a general principle, which alone was enough to determine the movement of any number of particles urged by any number of forces, and related to each other by certain conditions. Soon he extended this same principle to finite bodies of a determinate figure, to those which, being elastic or flexible, could change their figure according to certain laws whilst still preserving certain relations between their parts. Finally, he extended it to fluids themselves whether of a constant density or in a state of expansion. A new calculus was required for the solution of these latter questions. It could not escape his genius, and consequently mechanics was transformed into a pure calculus.

These discoveries belong to the mathematical sciences. But the nature of the law of universal gravitation and of the principles of mechanics and their consequences insofar as they reflect on the eternal order of the universe are within the province of philosophy. It was learnt that all bodies are subject to necessary laws which tend by themselves to produce or maintain equilibrium and create or preserve regularity of motion.

The knowledge of the laws that govern celestial phenomena; the discoveries of mathematical analysis, leading to more exact methods of calculating those phenomena; the perfection beyond all expectation attained by optical instruments and instruments whose precise calibration determines the precision of the observations made with their help; the

precision of machines destined to measure time; the more general interest in the sciences and the concern of governments which made for an increase of astronomers and observatories – all these causes contributed to the progress of astronomy. The sky was enriched for man with new stars and he learnt how to determine and predict with exactitude their position and their movements.

Physics, having gradually delivered itself from the vague explanations introduced by Descartes, just as it had shaken off the scholastic absurdities, is now merely the art of putting nature to the question by experiment so as then to be able by calculation to deduce more general facts.

The weight of the air has been measured and found out. It was discovered that the transmission of light is not instantaneous, and its speed was measured. From this a calculation was made of the effects that should result for the apparent position of the heavenly bodies. The sun's rays were divided up into simpler light rays having different degrees of refrangibility and diversely coloured. The rainbow was explained and the means of producing its colours or making them disappear have been submitted to calculation. Electricity, which was known only as the property possessed by certain substances of attracting light bodies when rubbed, became one of the general phenomena of the universe. The cause of lightning is no longer a mystery, and Franklin has revealed to men the art of harnessing it and using it as they wish. New instruments were employed to measure variations in the weight of the atmosphere, in the humidity of the air and in the temperature of a body. A new science under the name of meteorology taught us how to understand and sometimes to predict atmospheric phenomena whose laws we shall doubtless discover one day.

In presenting the picture of these discoveries we shall show how the methods which led the physicists in their researches were purified and perfected; how the art of making experiments and of constructing instruments progressively acquired greater precision, so that physics was not only enriched day by day with new truths, but the truths which had already been proved acquired greater exactitude; not only has a mass of hitherto unknown facts been observed and analysed, but all have been submitted in detail to the most rigorous methods.

Physics had to fight only against the prejudices of scholasticism and the appeal, so seductive to idle minds, of general hypotheses. Other obstacles impeded the progress of chemistry. People had imagined that it would yield the secret of making gold and the secret of immortal life.

Great interests make for superstition. People thought that such promises, which flattered the two strongest passions of the vulgar and excited the desire for glory, could not be fulfilled by any ordinary methods, and all the extravagances that demented credulity had ever invented seemed crammed together into the heads of chemists.

But these dreams gradually gave way to the mechanical philosophy of Descartes, which in turn was rejected and replaced by a truly experimental chemistry. Observation of the phenomena that accompany the composition and decomposition of bodies, the search for the laws governing these operations, the analysis of substances into ever simpler elements acquired an increasing precision and rigour.

But we must mention in addition to this progress in chemistry some of the improvements that, affecting as they do a given scientific system in its entirety by extending its methods rather than by increasing its truths, foretell and prepare a successful revolution. Such was the discovery of new methods of collecting and subjecting to experiment the expansible fluids that had hitherto eluded such examination. This was a discovery that changed the entire system of chemistry; for it made possible control over a whole range of new entities as well as over those that were already known, but had remained beyond the reach of research, and it added a new element to almost all compounds. Another such improvement was the formation of a language in which the names designating the substances indicate either the relations or differences between those substances having a common element, or the class to which they belong. Other such improvements were the introduction of a scientific notation in which these substances are represented by analytically combined characters and that can express even the most common operations; the general laws of affinities; the use of all the methods and instruments that are employed in physics for calculating the results of experiments with rigorous precision; and, finally, the application of mathematics to the phenomena of crystallisation and to the laws describing how the elements of certain bodies unite and take regular and constant form. Men who had for so long been satisfied with superstitions or philosophical dreams about the formation of the earth rather than proper inquiry, now at last felt the need to study, with scrupulous attention, the substances found on its surface or, where they had been led by necessity to penetrate it, in its interior, their disposition and their regular or fortuitous distribution. They learnt to recognise the marks of the slow and prolonged action of sea-water, subterranean water and fire upon it; and to distinguish those

parts of the surface and external crust of the earth where the irregularities and disposition of substances, and often the substances themselves, are the work of fire, subterranean water and sea-water from other parts of the earth which have been formed for the most part from heterogeneous substances and bear the impress of earlier revolutions whose causes are still unknown to us.

Minerals, vegetables and animals are divided into several species whose members differ only in an imperceptible and irregular fashion, or for purely local causes. Several of these species resemble one another and possess a certain number of common qualities which serve to establish the successive and increasingly extensive divisions. Naturalists have learnt to classify individuals methodically according to determined characteristics which are easy to grasp; the only method of distinction possible with this innumerable multitude of different beings. These methods are a kind of real language in which every object is designated by some of its more constant qualities and by means of which, knowing these qualities, we may find the name of the object in the conventional language. These same languages, when they are well constructed, also tell us what are, for each class of natural beings, the really essential qualities whose conjunction implies a more or less complete resemblance in the remaining properties.

If we have sometimes seen men, in their pride so very conscious of the toil that the invention of these methods cost them, attach an exaggerated importance to them and take for the science itself what is merely its dictionary and its grammar, a false philosophy has also led them into the opposite excess, of holding too low an opinion of these same methods and identifying them with an arbitrary system of nomenclature, barren, painstaking compilations.

The chemical analysis of substances in the three great kingdoms of nature; the description of their external form; the exposition of their physical qualities and their ordinary properties; the history of the development of organic bodies, whether animals or plants, and of their nutrition and reproduction; the details of their organic structures; the anatomy of their different parts and the functions of each of these parts; the history of the habits of animals and of their efforts to procure food and shelter, to seize their prey or to hide from their enemies; the family or species societies which they form together; that body of truths which is attained by going through the enormous chain of natural entities; the successive links that lead from brute matter to the lowest degree of organic life, from

organic matter to that which gives the first indications of spontaneous movement and sensitivity, and, finally, from that to man; the relations of all these entities to man, either relative to his needs or in the analogies which bring him nearer to them, or in the differences that separate him from them: this is the picture which natural history gives us today.

Physical man has himself become the object of a separate science, *anatomy*, which in its ordinary meaning includes physiology, that science which had been retarded by a superstitious respect for the dead, profited from the general enfeeblement of prejudice and successfully undermined the support that it received from powerful men who were interested in its preservation. Its progress seems somehow to have come to a stop, and to await the discovery of improved instruments and new methods. And it now seems to be almost reduced to the study of the comparisons between the parts of animals and those of men, the organs common to different species, and the manner in which similar functions are exercised, in its search for those truths which are at the moment not open to human observation. Almost everything which the eye of the observer has been able to discover with the aid of a microscope is already unveiled. The future development of anatomy seems to depend on the possibility of experiment which has proved so useful to the progress of other sciences. But this necessary means of improvement has been denied to anatomy by the very nature of its subject.

The circulation of the blood was for long known; but the disposition of the vessels carrying the chyle which is destined to mix with it so as to make good its losses; the existence of a gastric juice which brings about the necessary decomposition of food in order to separate those parts fit to be assimilated to living fluids and organic matter; the changes that various parts and organs undergo, both in the period between conception and birth, and after birth in the different ages of life; the identification of the parts endowed with sensitivity or with that property of irritability discovered by Haller and found common to almost all organic beings – this is what physiology discovered and established by certain observation during that brilliant era; and so many important truths should secure general forgiveness for those earlier mechanical, chemical and organic explanations which have successively overburdened physiology with hypotheses baneful to the progress of science and dangerous when their application was extended to medicine.

To this picture of the sciences we must append a picture of the applied sciences or practical arts. For the arts, now resting on the sciences, made

sure progress and broke the chains in which routine had hitherto bound them.

We shall show the influence that the progress of mechanics, astronomy, optics and the science of measuring time exercised over the art of building, moving and guiding ships. We shall explain how the increase in the number of observers, the greater skill of the navigator and a stricter precision in the astronomical determination of position and in topographical methods, at last laid bare the whole of the terrestrial globe which had been almost unknown at the end of the previous century; how the mechanical arts proper owed their perfection to that of the art of constructing instruments, machines and looms, and how the perfection of the latter was due to the progress of rational mechanics and of physics; we shall also show what these arts owed to the science of using existing engines with less loss and expense, and to the invention of new engines.

We shall see how architecture borrowed from the science of equilibrium and the theory of liquids, methods for making a roof that was at once less expensive and more convenient, but with no danger to the solidity of the construction; ways of resisting the impact of water in a more scientific fashion; and means of controlling its course and exploiting it by building canals with greater ingenuity and success.

We shall show how the chemical arts were enriched by new methods; and how the old methods were purified and simplified; how the useless or harmful substances, the ineffectual or imperfect practices introduced by routine were cast away; while at the same time means were discovered of preventing the terrible dangers to which workmen were often exposed, so that now they could enjoy themselves more and earn more, and no longer at a heavy price in painful sacrifice and regret.

Chemistry, botany and natural history were of use in the economic arts, and in the cultivation of useful plants; in the feeding, breeding and rearing of domestic animals; in perfecting their stocks and bettering their produce; in the preparation and conservation of the earth's supplies and animal produce.

Surgery and pharmacy have become almost new arts ever since anatomy and chemistry offered them their enlightened and certain guidance.

Medicine, which as far as its practice is concerned must be regarded as an art, was at least delivered from false theories, pedantic jargon, murderous routine, servile submission to the authority of men and the doctrine of faculties. It now teaches men to believe nothing but experience. It has increased its methods and learnt better how to combine and employ

them. If in certain aspects its progress has been somewhat negative, limited to the abandonment of dangerous practices and harmful prejudices, new methods of studying chemical medicine and combining observations foretell real and far-reaching progress.

We shall above all try to follow the progress of scientific genius, which sometimes descends from a profound abstract theory to skilful and delicate applications of this theory, and, by simplifying its methods and by adapting them to our needs, extends its benefits to the most ordinary occasions; and, then, at other times, stimulated by these practical needs, seeks the realm of the most elevated speculation for the assistance that was denied it by ordinary knowledge.

We shall show that declamations about the inutility of theories even in the simplest arts have never proved anything save the ignorance of those who make them. We shall point out that it is not to the profundity of these theories but, on the contrary, to their imperfection that we must attribute the inutility or tragic consequences of so many unfortunate applications.

These observations will lead us to this general truth, that, in all the arts, truths of theory are necessarily modified in practice; that there exist certain genuinely inevitable inexactitudes whose effects we should attempt to render nugatory without entertaining any illusory hopes of avoiding them altogether; that a great number of conditions, relating to needs, methods, time, expense, which are necessarily neglected in theory, must enter into the problem when it is a question of a real and immediate practical application; and if we consider these conditions with the true skill of practical genius, we can at once go beyond the narrow limits within which prejudice against theory threatens to constrain the arts, and also avoid the mistakes into which a clumsy application of theory might lead us.

Sciences which had been divided could not develop without closer association, without making points of contact.

Exposition of the progress within each science suffices to show what has been the utility, in several of them, of the immediate application of calculation; and how in all of them it has been used to give a greater precision both to experiment and to observation; how much they owe to mechanics, which has provided them with more perfect and more exact instruments; the extent to which the discovery of microscopes and meteorological instruments has contributed to the perfection of natural history; what this latter science owes to chemistry, which alone has been able to lead it to a deeper knowledge of the objects it deals with, to unveil for it the most intimate secrets of nature and her most essential differences, by showing

the mode of composition of chemical elements; while, on the other hand, natural history provides chemistry with so many products to separate and collect, so many different operations to conduct, so many natural combinations whose true elements must be separated and whose secrets may sometimes be discovered or even imitated; and, finally, physics and chemistry afford assistance to each other, and anatomy receives it so plentifully from natural history and the other sciences.

Even so, we have described only a very small portion of the benefits that we have received, and are still to receive from this application. Several geometers have supplied us with general methods for finding the empirical laws of phenomena on the basis of observation, methods that can be extended to all the sciences since they lead equally to knowledge of the law giving the successive values of a given quantity for a series of moments, or of positions, or the law according to which different properties, or the different values of a similar quality, are distributed between a given number of objects.

Some applications have already proved that we can successfully use the science of combinations for arranging observations in such a way as to be able to grasp more easily the relations between them, the conclusions that follow from them and their general scheme.

The existing applications of the calculus of probability foretell how they can aid the progress of the other sciences. In some cases they can determine the probability of unusual facts and inform us whether they should be rejected or whether they deserve to be verified. In other cases they can determine the probability of the constant recurrence of those facts which often present themselves in the practice of the arts and which are not by themselves linked to an order already regarded as a general law: as, for example, in medicine the salutary results of certain remedies and the success of certain preservatives. Other applications show us what is the probability of a class of phenomena being the result of the intention of an intelligent being or of their being dependent on other preceding or co-existing phenomena; the probability too that must be attributed to that necessary and unknown cause which we call chance, a word whose true meaning can be determined only by the study of this calculus.

These applications have also taught us to recognise the different degrees of certainty that we can hope to attain; the degree of likelihood an opinion must possess before we can adopt it and use it in argument, without infringing the rights of reason or the principles of conduct, without sacrificing prudence or offending justice. They show us the advantages and

disadvantages of the different systems of voting and the different ways of deciding an issue by a majority vote; the different degrees of probability that these methods produce; and for any question the degree that the public interest may rightly demand. They tell us how to determine the degree of probability with virtual certainty in cases where a decision is not necessary or where the disadvantages of the two possible courses of action are discrepant and so one of them should not be adopted as long as its chances of success remain below this degree of probability; or, alternatively, how to determine the degree of probability in advance and with complete certainty in cases where a decision is necessary and where even the slightest likelihood of its being right justifies its adoption.

We may number amongst these applications the examination of the probability of facts for those who cannot base their beliefs on their own observations – a probability which arises either from the reliability of witnesses or from the relation of the facts in question to others that have been directly observed.

The knowledge of physical man, medicine and public economy are bound to benefit from the researches about the duration of human life and the way this is influenced by differences in sex, temperature, climate, profession, government and ordinary habits; about the dependence of the death-rate on various illnesses; about changes in population, and the extent to which they depend on the action of various causes; about the distribution of population in the various countries according to age, sex and occupation.

And how useful to public economy has been the application of these same calculi in the organisation of life annuities, tontines, private savings banks, benefit schemes and insurance policies of every kind! Ought not the application of the calculus of probability to be applied to that part of public economy which includes the theory of measures, money, banking, financial operations, as well as taxation, its legal distribution, its actual distribution which so often contradicts the law and its consequences for all sections of the social system?

How many important questions in this same science have been resolved only by the aid of our knowledge of natural history, agriculture, the physical constitution of plants and the mechanical or chemical arts!

Such, in a word, has been the general progress of the sciences that there is not really one of them whose principles and details can be fully developed without the help of all the others. In presenting our picture of the new truths with which each of the sciences has been enriched and of how

much each owes to the application of theories or methods that seem to belong more particularly to other systems of knowledge, we shall investigate the nature and limits of the truths to which observation, experiment and meditation can lead us in each science. We shall also inquire what precisely constitutes, for each one of them, the talent of invention, that primary faculty of the human intelligence which has been given the name *genius*; by which means the mind can make the discoveries that it seeks or sometimes be led to those which it did not seek and could not even have foreseen. We shall point out how the methods which lead us to discoveries can be exhausted so that science is somehow forced to stop, unless new methods appear to provide genius with a new instrument, or to facilitate the use of those which, it seemed, could no longer be employed without waste of time and energy.

If we were to confine ourselves to showing the benefits that we have derived from the sciences in their immediate uses or in their applications either for the well-being of individuals or for the prosperity of nations, we should display only a very small portion of their blessings.

The most important of these, perhaps, is to have destroyed prejudices and to have redirected human intelligence, which had been obliged to follow the false directions imposed on it by the absurd beliefs that were implanted in each generation in infancy with the terrors of superstition and the fear of tyranny.

All errors in politics and morals are based on philosophical errors and these in turn are connected with scientific errors. There is not a religious system nor a supernatural extravagance that is not founded on ignorance of the laws of nature. The inventors, the defenders of these absurdities could not foresee the successive perfection of the human mind. Convinced that men in their day knew everything that they could ever know and would always believe what they then believed, they confidently supported their idle dreams on the current opinions of their country and their age.

Advances in the physical sciences are all the more fatal to these errors in that they often destroy them without appearing to attack them, and that they can shower on those who defend them so obstinately the humiliating taunt of ignorance.

At the same time the habit of correct reasoning about the objects of these sciences, the precise ideas gained by their methods and the means of recognising or proving the truth of a belief should naturally lead us to compare the sentiment that forces us to accept well-founded opinions as

credible for good reasons with that which ties us to habitual prejudices or forces us to submit to authority. Such a comparison is enough to teach us to mistrust opinions of the latter kind, to convince us that we do not really believe them even when we boast of believing them, even when we profess them with the purest sincerity. This secret, once discovered, makes their destruction immediate and certain.

Finally, this progress of the physical sciences, which neither the passions nor self-interest can disturb, in which neither birth, nor profession, nor position are thought to confer on one the right to judge what one is not in a condition to understand, this inexorable progress cannot be contemplated by men of enlightenment without their wishing to make the other sciences follow the same path. It offers them at every step a model to emulate and one by which they may judge of their own efforts, recognise the false roads on which they may have set out and preserve themselves equally from Pyrrhonism, from credulity, from extreme diffidence and from a too great submission even to the authority of learning and fame.

Admittedly, metaphysical analysis led to the same results but it gave only abstract principles, while now these same abstract principles, put into practice, are illuminated by example and fortified by success.

Up to this stage, the sciences had been the birthright of very few; they were now becoming common property and the time was at hand when their elements, their principles and their simpler methods would become truly popular. For it was then, at last, that their application to the arts and their influence on men's judgement would become of truly universal utility.

We shall follow the progress of European nations in the education both of children and of adults. This progress may appear to have been slow, if one considers only the philosophical foundations on which education has been based, for it is still in the grip of scholastic superstition; but it appears swift enough if one considers the nature and the extent of the subjects taught, for these are now confined almost completely to genuine inquiries and include the elements of nearly all the sciences; while dictionaries, abstracts and periodicals provide men of all ages with the information they require – even if this does not always appear in an unadulterated form. We shall examine the utility of combining oral instruction in the sciences with the immediate instruction to be acquired from books and private study, and we shall also examine whether any advantage has accrued from the development

of compilation into an accredited profession in whose practice a man may hope to earn a livelihood; a development that has augmented the number of indifferent books in circulation, but has also increased the roads to knowledge open to men of little education. We shall give an account of the influence exercised by learned societies, for these will long remain a useful bulwark against charlatanry and false scholarship. Finally, we shall unfold the story of the encouragement given by certain governments to the progress of knowledge and also of the obstacles that were laid in its path often enough by these same governments at the same time, in the same country. We shall expose, on the one hand, the prejudices and Machiavellian principles that have directed these governments in their opposition to men's progress towards the truth, and, on the other hand, the political opinions originating either from self-interest or even from a genuine concern for the public good that have guided them when they have seemed interested in accelerating and protecting it.

The spectacle presented by the fine arts has no less brilliant results to show. Music has become almost a new art and, at the same time, its theory has been illuminated by the application of numerical calculation to the vibration of resonating bodies and the oscillation of the air. The graphic arts, which had already passed from Italy to Flanders, Spain and France, rose in the latter country to the heights they had attained in Italy during the preceding stage, and there shone with even greater brilliance than in Italy itself. The art of our painters is still the art of Raphael and the Carracci. Their methods, so far from dying out, have not only been kept alive in the schools, but have been more widely diffused. Nevertheless, too much time has elapsed without the appearance of a genius comparable to Raphael for us to attribute so long a period of sterility to chance alone. It is not that the methods of the art have been exhausted, although major achievements in it have become more difficult; it is not that nature has denied us faculties as perfect as those of the Italians of the sixteenth century; it is solely to changes in politics and in manners that we must attribute, not indeed the decadence of the art, but the feebleness of its products.

The art of letters, which, though in no way decadent in Italy, is cultivated there with less success, has made such progress in the French language that it has earned for it the honour of becoming the all but universal language of Europe. In the hands of Corneille, of Racine, of Voltaire, tragedy has risen step by step to a hitherto unknown perfection; and, in the

hands of Molière, comedy has risen even more rapidly to heights as yet unattained in any other nation.

At the beginning of this period, the English language was brought to perfection, and so, more recently, was the German. Both in England and in Germany, the arts of poetry and prose learned to accept, if with less docility than in France, the yoke of those universal rules of reason and of Nature which ought to be their guide. These rules are true for all languages and all peoples, although until now only very few have been capable of understanding them and of attaining that *justice and certainty of taste* which is merely a feeling for these rules, which presided over the works of Sophocles and Virgil as over those of Pope and Voltaire, which taught the Greeks and the Romans, as later the English and the French, to be delighted by the same beauties and to be shocked by the same faults.

We shall show what factors have favoured or impeded *the progress of the arts* in each nation, the reasons for the so unequal degrees of excellence attained in each nation by the various kinds of poetry and prose, and the way in which the literary rules can be modified, with no infraction of the universal principles on which they are based, by the manners and the opinions of the nation in which a given *genre* is practised, and by the use for which it is destined. So, for example, tragedy intended to be spoken in daily performance, before a small audience in a room of moderate size, cannot have the same practical rules as tragedy intended to be sung in an immense theatre, as part of solemn festivities to which a whole nation is convened. We shall endeavour to prove that the rules of taste have the same universality, the same constancy as the other laws of the physical or the moral universe, but are susceptible to the same kind of modification as they are when it is a question of their application in some practical art.

We shall show how the printing press multiplies and spreads abroad even those works primarily intended to be performed or read aloud in public, and so allows them to reach incomparably more people as readers than they ever could as mere listeners; we shall show how, as a consequence of the way that any important decision taken in a large assembly is now determined by what the members of that assembly have learnt through the written word, a new art of persuasion has arisen amongst the moderns, different from that practised by the Ancients, a difference that is analogous to the differences in the effects produced, in the means employed between this modern art and that of the Ancients; and, finally, we shall show how in those branches of literature where even the Ancients confined themselves

to the written word, such as history or philosophy, the invention of printing makes it so much easier for the author to expand and develop his ideas, that here again it has inevitably modified those rules.

The progress of philosophy and the sciences has favoured and extended the progress of letters, and this in turn has served to make the study of the sciences easier, and that of philosophy more popular. The sciences and the arts have assisted one another despite the efforts of the ignorant and the foolish to separate them and make them enemies. Scholarship, which seemed doomed by its respect for the past and its deference towards authority always to lend its support to harmful superstitions, has nevertheless contributed to their eradication, for it was able to borrow the torch of a sounder criticism from philosophy and the sciences. It already knew how to weigh up authorities and compare them; it now learned how to bring every authority before *the bar of reason*. It had already discounted prodigies, fantastic anecdotes, facts contrary to all probability; but after attacking the evidence on which such absurdities relied, it now learned that all extraordinary facts must always be rejected, however impressive the evidence in their favour, unless this can truly turn the scale against the weight of their physical or moral probability.

Thus, all the intellectual activities of man, however different they may be in their aims, their methods or the qualities of mind they exact, have combined to further the progress of human reason. Indeed, the whole system of human achievements is like a well-made body of work, whose several parts have been systematically distinguished, but, nonetheless, being intimately bound together, form a single whole and work towards a single end.

Turning now our attention to the human race in general, we shall show how the discovery of the correct method of procedure in the sciences, the growth of scientific theories, their application to every part of the natural world, to the subject of every human need, the lines of communication established between one science and another, the great number of men who cultivate the sciences, and most important of all, the spread of printing, how together all these advances ensure that no science will ever fall below the point it has reached. We shall point out that the principles of philosophy, the slogans of liberty, the recognition of the true rights of man and his real interests, have spread through far too great a number of nations, and now direct in each of them the opinions of far too great a number of enlightened men, for us to fear that they will ever be allowed to relapse into oblivion. And, indeed, what reason could we have for fear

when we consider that the languages most widely spoken are the languages of the two peoples who enjoy liberty to the fullest extent and who best understand its principles, and that no league of tyrants, no political intrigues, could prevent the resolute defence, in these two languages, of the rights of reason and of liberty?

But although everything tells us that the human race will never relapse into its former state of barbarism, although everything combines to reassure us against that corrupt and cowardly political theory which would condemn it to oscillate forever between truth and error, liberty and servitude, nevertheless we still see the forces of enlightenment in possession of no more than a very small portion of the globe, and *the truly enlightened vastly outnumbered by the great mass of men who are still given over to ignorance and prejudice*. We still see vast areas in which men groan in slavery, vast areas offering the spectacle of nations either degraded by the vices of a civilisation whose progress is impeded by corruption or still vegetating in the infant condition of early times. We observe that the labours of recent ages have done much for the progress of the human mind, but little for the perfection of the human race; that they have done much for the honour of man, something for his liberty, but so far almost nothing for his happiness. At a few points our eyes are dazzled with a brilliant light, but thick darkness still covers an immense stretch of the horizon. There are a few circumstances from which the philosopher can take consolation, but he is still afflicted by the spectacle of the stupidity, slavery, barbarism and extravagance of mankind; and the friend of humanity can find unmixed pleasure only in tasting the sweet delights of hope for the future.

Such are the subjects that ought to enter into a historical sketch of the progress of the human mind. In presenting it, we shall endeavour above all to exhibit the influence of this progress on the opinions and the welfare of the great mass of the people, in the different nations, at the different stages of their political existence. We shall endeavour to exhibit the truths they have learnt, the errors from which they have been freed, the habits of virtue they have contracted and the developments in their capacities that have established a more fortunate relation between their wants and these capacities; and, then by way of contrast, the prejudices that have enslaved them, the political or religious superstitions with which they have been infected, the vices with which they have been corrupted by ignorance or tyranny, and the misery to which they have been subjected either by force or by their own degradation.

Up till now, the history of politics, like that of philosophy or of science, has been the history of only a few individuals: that which really constitutes the human race, the vast mass of families living for the most part on the fruits of their labour, has been forgotten, and even of those who follow public professions and work not for themselves but for society, who are engaged in teaching, ruling, protecting or healing others, it is only the leaders who have held the eye of the historian.

In writing the history of individuals, it is enough to collect facts; but the history of a group of men must be supported by observations; and to select these observations and to fasten upon their essential features enlightenment is necessary, and, to use them to good effect, philosophy in the same measure.

Moreover, these observations relate to quite ordinary matters, which lie open to every eye, and which anyone who so desires can find out about by himself. Consequently, almost all the observations that have been collected have been made by travellers or foreigners; for facts that are regarded as common-place in their own country, become for them objects of curiosity. But unfortunately travellers are nearly always inaccurate observers; they observe things too hastily, through the prejudices of their own country or of that in which they are travelling; they discuss them with those into whose company chance has thrown them, and what they are told is nearly always dictated by self-interest, by the spirit of party, by patriotic pride or merely by the mood of the moment.

Thus, it is not only to the servility of historians, as has been said with justice about the official historians of monarchs, that we must attribute the scarcity of records that would allow us to follow this, the most important chapter in the history of man.

These records we can supplement, but only imperfectly, by a study of legal systems, of the practical principles of politics and public economy, and of religion and superstition in general. For there can be such a vast discrepancy between the law in writing and the law applied, between the principles of rulers and their practice as modified by the will of their subjects, between a social institution in the minds of those who conceive it and the same institution when its provisions are realised in practice, between the religion of books and the religion of the people, between the apparently universal acceptance of a superstition and the support which it can in fact command, that the actual effects may bear no relation whatever to their public and widely known causes.

It is this most obscure and neglected chapter of the history of the human race, for which we can gather so little material from records, that must occupy the foreground of our picture; and whether we are concerned with a discovery, an important theory, a new legal system or a political revolution, we shall endeavour to determine its consequences for the majority in each society. For it is there that one finds the true subject matter of philosophy, for all intermediate consequences may be ignored except insofar as they eventually influence the greater mass of the human race.

It is only when we come to this final link in the chain that our contemplation of historical events and the reflections that occur to us are of true utility. Only then can we appreciate men's true claims to fame, and can take real pleasure in the progress of their reason; only then can we truly judge the perfection of the human race.

The idea that everything must be considered in relation to this single point of reference is dictated both by justice and by reason. Nevertheless, one might be tempted to regard it as fantastic. But one would be wrong. To show this is so, we have only to cite two striking examples.

The man who tills our soil owes his enjoyment of the commonest goods, which plentifully supply his needs, to the long-continued labours of industry assisted by science; and his enjoyment of these goods can be traced even further back to the victory of Salamis, but for which the shadows of Oriental despotism threatened to engulf the earth. Similarly, the mariner who is preserved from shipwreck by precise observations of longitude, owes his life to a theory which can be traced back, through a chain of truths, to discoveries made in the school of Plato, and thereafter buried for twenty centuries in total disuse.

The tenth epoch

The future progress of the human mind

If man can, with almost complete assurance, predict phenomena when he knows their laws, and if, even when he does not, he can with high probability forecast the events of the future on the basis of his experience of the past, why, then, should it be regarded as a fantastic undertaking to sketch, with some pretence to truth, the future destiny of man on the basis of his history? The sole foundation for belief in the natural sciences is this idea, that the general laws directing the phenomena of the

universe, known or unknown, are necessary and constant. Why should this principle be any less true for the development of the intellectual and moral faculties of man than for the other operations of nature? Since beliefs founded on past experience of like conditions provide the only rule of conduct for the wisest of men, why should the philosopher be forbidden to base his conjectures on these same foundations, as long as he does not attribute to them a certainty superior to that warranted by the number, the constancy and the accuracy of his observations?

Our hopes for the future condition of the human race can be subsumed under three important heads: the abolition of inequality between nations; the progress of equality within a single people; and the true perfection of man. Will all nations one day attain that state of civilisation which the most enlightened, the freest and the least burdened by prejudices, such as the French and the Anglo-Americans, have attained already? Will the vast gulf that separates these peoples from the slavery of nations under the rule of monarchs, from the barbarism of African tribes, from the ignorance of savages, little by little disappear?

Is there on the face of the earth a nation whose inhabitants have been debarred by nature herself from the enjoyment of freedom and the exercise of reason?

Are those differences which have hitherto been seen in every civilised country in respect of the enlightenment, the resources and the wealth enjoyed by the different classes into which it is divided, is that inequality between men which was aggravated or perhaps produced by the earliest progress of society, are these part of civilisation itself or are they due to the present imperfections of the social art? Will they necessarily decrease and ultimately make way for a real equality, the final end of the social art, in which even the effects of the natural differences between men will be mitigated and the only kind of inequality to persist will be that which is in the interests of all and which favours the progress of civilisation, of education and of industry, without entailing either poverty, humiliation or dependence? In other words, will men approach a condition in which everyone will have the knowledge necessary to conduct himself in the ordinary affairs of life, according to the light of his own reason, to preserve his mind free from prejudice, to understand his rights and to exercise them in accordance with his conscience and his creed; in which everyone will become able, through the development of his faculties, to find the means of providing for his needs; and in which at last misery and folly will be the exception, and no longer the habitual lot of a section of society?

Is the human race to better itself, either by discoveries in the sciences and the arts, and so in the means to individual welfare and general prosperity; or by progress in the principles of conduct or practical morality; or by a true perfection of the intellectual, moral or physical faculties of man, an improvement which may result from a perfection either of the instruments used to heighten the intensity of these faculties and to direct their use or of the natural constitution of man?

In answering these three questions we shall find in the experience of the past, in the observation of the progress that the sciences and civilisation have already made, in the analysis of the progress of the human mind and of the development of its faculties, the strongest reasons for believing that nature has set no limit to the realisation of our hopes.

If we glance at the state of the world today we see first of all that in Europe the principles of the French constitution are already those of all enlightened men. We see them too widely propagated, too seriously professed, for priests and despots to prevent their gradual penetration even into the hovels of their slaves; there they will soon awaken in these slaves the remnants of their common sense and inspire them with that smouldering indignation which not even constant humiliation and fear can smother in the soul of the oppressed.

As we move from nation to nation, we can see in each what special obstacles impede this revolution and what attitudes of mind favour it. We can distinguish the nations where we may expect it to be introduced gently by the perhaps belated wisdom of their governments, and those nations where its violence intensified by their resistance must involve all alike in a swift and terrible convulsion.

Can we doubt that either common sense or the senseless discords of European nations will add to the effects of the slow but inexorable progress of their colonies, and will soon bring about the independence of the New World? And then will not the European population in these colonies, spreading rapidly over that enormous land, either civilise or bring about the disappearance, even without conquest, of the savage nations who still inhabit vast tracts of its land?

Survey the history of our settlements and commercial undertakings in Africa or in Asia, and you will see how our trade monopolies, our treachery, our murderous contempt for men of another colour or creed, the insolence of our usurpations, the intrigues or the exaggerated proselytising zeal of our priests, have destroyed the respect and goodwill that the superiority of our knowledge and the benefits of our commerce at first won for

us in the eyes of the inhabitants. But doubtless the moment approaches when, no longer presenting ourselves as always either tyrants or corrupters, we shall become for them useful instruments or generous liberators.

The sugar industry, establishing itself throughout the immense continent of Africa, will destroy the shameful exploitation which has corrupted and depopulated that continent for the last two centuries.

Already in Great Britain, friends of humanity have set us an example; and if the Machiavellian government of that country has been restrained by public opinion from offering any opposition, what may we not expect of this same spirit, once the reform of a servile and venal constitution has led to a government worthy of a humane and generous nation? Will not France hasten to imitate such undertakings dictated by philanthropy and the true self-interest of Europe alike? Trading stations have been set up in the French islands, in Guiana and in some English possessions, and soon we shall see the downfall of the monopoly that the Dutch have sustained with so much treachery, persecution and crime. The nations of Europe will finally learn that monopolistic companies are nothing more than a tax imposed upon them in order to provide their governments with a new instrument of tyranny.

So the peoples of Europe, confining themselves to free trade, understanding their own rights too well to show contempt for those of other peoples, will respect this independence which until now they have so insolently violated. Their settlements, no longer filled with government hirelings hastening under the cloak of place or privilege to amass treasure by brigandry and deceit, so as to be able to return to Europe and purchase titles and honours, will now be peopled with men of industrious habit, seeking in these propitious climates the wealth that eluded them at home. The love of freedom will retain them there, ambition will no longer recall them and what have been no better than the counting-houses of brigands will become colonies of citizens propagating throughout Africa and Asia the principles and the practice of liberty, knowledge and reason that they have brought from Europe. We shall see the monks who brought only shameful superstition to these peoples and aroused their antagonism by the threat of yet another tyranny, replaced by men occupied in propagating amongst them the truths that will promote their happiness and in teaching them about their interests and their rights. Zeal for the truth is also one of the passions and it will turn its efforts to distant lands, once there are no longer at home any crass prejudices to combat, any shameful errors to dissipate.

These vast lands are inhabited partly by numerous peoples who only await assistance from us to become civilised, who wait only to find brothers amongst the European nations to become their friends and pupils; partly by nations oppressed by sacred despots or dull-witted conquerors, and who for so many centuries have cried out to be liberated; partly by tribes living in a condition of almost total savagery in a climate whose harshness repels the sweet blessings of civilisation and deters those who would teach them its benefits; and, finally, by conquering hordes who know no other law but force, no other profession but piracy. The progress of these two last classes of people will be slower and stormier; and perhaps it will even be that, reduced in number as they are driven back by civilised nations, they will finally disappear imperceptibly before them or merge into them.

We shall point out how these events will be the inevitable result not merely of the progress of Europe, but also of the freedom that the French and the North American republics can, and in their own real interest should, grant to the trade of Africa and Asia; and how they must of necessity result either from a new-found wisdom on the part of the European nations or from their obstinate attachment to mercantilist prejudices.

We shall show that there is only one event, a new invasion of Asia by the Tartars, that could prevent this revolution, and that this event is now impossible. Meanwhile, everything forecasts the imminent decadence of the great religions of the East, which in most countries have been abandoned to the people, and, affected by the corruption of their ministers, are in some already regarded by the ruling classes as mere political inventions; in consequence of which they are now powerless to retain human reason in hopeless bondage, in eternal infancy.

The progress of these peoples is likely to be more rapid and certain than our own because they can receive from us everything that we have had to find out for ourselves, and in order to understand those simple truths and infallible methods which we have acquired only after long error, all that they need to do is to follow the expositions and proofs that appear in our speeches and writings. If the progress of the Greeks was lost to later nations, this was because of the absence of any form of communication between the different peoples, and for this we must blame the tyrannical domination of the Romans. But when mutual needs have brought all men together, and the great powers have established equality between societies as well as between individuals and have raised respect for the independence of weak states and sympathy for ignorance and misery to the rank

of political principles, when maxims that favour action and energy have ousted those which would compress the province of human faculties, will it then be possible to fear that there are still places in the world inaccessible to enlightenment or that despotism in its pride can raise barriers against truth that are insurmountable for long?

The time will therefore come when the sun will shine only on free men who know no other master but their reason; when tyrants and slaves, priests and their stupid or hypocritical instruments will exist only in works of history and on the stage; and when we shall think of them only to pity their victims and their dupes; to maintain ourselves in a state of vigilance by thinking on their excesses; and to learn how to recognise and so to destroy, by force of reason, the first seeds of tyranny and superstition, should they ever dare to reappear amongst us.

In looking at the history of societies we shall have had occasion to observe that there is often a great difference between the rights that the law allows its citizens and the rights that they actually enjoy, and, again, between the equality established by political codes and that which in fact exists amongst individuals; and we shall have noticed that these differences were one of the principal causes of the destruction of freedom in the Ancient republics, of the storms that troubled them and of the weakness that delivered them over to foreign tyrants.

These differences have three main causes: inequality in wealth; inequality in status between the man whose means of subsistence are hereditary and the man whose means are dependent on the length of his life, or, rather, on that part of his life in which he is capable of work; and, finally, inequality in education.

We therefore need to show that these three sorts of real inequality must constantly diminish without however disappearing altogether: for they are the result of natural and necessary causes which it would be foolish and dangerous to wish to eradicate; and one could not even attempt to bring about the entire disappearance of their effects without introducing even more fecund sources of inequality, without striking more direct and more fatal blows at the rights of man.

It is easy to prove that wealth has a natural tendency to equality, and that any excessive disproportion could not exist or at least would rapidly disappear if civil laws did not provide artificial ways of perpetuating and uniting fortunes; if free trade and industry were allowed to remove the advantages that accrued wealth derives from any restrictive law or fiscal privilege; if taxes on covenants, the restrictions placed on their free

employment, their subjection to tiresome formalities and the uncertainty and inevitable expense involved in implementing them did not hamper the activity of the poor man and swallow up his meagre capital; if the administration of the country did not afford some men ways of making their fortune that were closed to other citizens; if prejudice and avarice, so common in old age, did not preside over the making of marriages; and if, in a society enjoying simpler manners and more sensible institutions, wealth ceased to be a means of satisfying vanity and ambition, and if the equally misguided notions of austerity, which condemn spending money in the cultivation of the more delicate pleasures, no longer insisted on the hoarding of all one's earnings.

Let us turn to the enlightened nations of Europe and observe the size of their present populations in relation to the size of their territories. Let us consider in agriculture and industry the proportion that holds between labour and the means of subsistence, and we shall see that it would be impossible for those means to be kept at their present level and consequently for the population to be kept at its present size if a great number of individuals were not almost entirely dependent for the maintenance of themselves and their family either on their own labour or on the interest from capital invested so as to make their labour more productive. Now both these sources of income depend on the life and even on the health of the head of the family. They provide what is rather like a life annuity, save that it is more dependent on chance; and in consequence there is a very real difference between people living like this and those whose resources are not at all subject to the same risks, who live either on revenue from land or on the interest on capital which is almost independent of their own labour.

Here, then, is a necessary cause of inequality, of dependence and even of misery, which ceaselessly threatens the most numerous and most active class in our society.

We shall point out how it can be in great part eradicated by guaranteeing people in old age a means of livelihood produced partly by their own savings and partly by the savings of others who make the same outlay, but who die before they need to reap the reward; or, again, on the same principle of compensation, by securing for widows and orphans an income which is the same and costs the same for those families which suffer an early loss and for those which suffer it later; or again by providing all children with the capital necessary for the full use of their labour, available at the age when they start work and found a family, a capital which increases

at the expense of those whom premature death prevents from reaching this age. It is to the application of the calculus to the probabilities of life and the investment of money that we owe the idea of these methods which have already been successful, although they have not been applied in a sufficiently comprehensive and exhaustive fashion to render them really useful not merely to a few individuals, but to society as a whole by making it possible to prevent those periodic disasters which strike at so many families and which are such a recurrent source of misery and suffering.

We shall point out that schemes of this nature, which can be organised in the name of the social authority and become one of its greatest benefits, can also be the work of private associations, which will be formed without any real risk, once the principles for the proper working of these schemes have been widely diffused and the mistakes which have been the undoing of a large number of these associations no longer hold terrors for us.

We shall reveal other methods of ensuring this equality, either by seeing that credit is no longer the exclusive privilege of great wealth, but that it has another and no less sound foundation; or by making industrial progress and commercial activity more independent of the existence of the great capitalists. And, once again, it is to the application of the calculus that we shall be indebted for such methods.

The degree of equality in education that we can reasonably hope to attain, but that should be adequate, is that which excludes all dependence, either forced or voluntary. We shall show how this condition can be easily attained in the present state of human knowledge even by those who can study only for a small number of years in childhood, and then during the rest of their life in their few hours of leisure. We shall prove that, by a suitable choice of syllabus and of methods of education, we can teach the citizen everything that he needs to know in order to be able to manage his household, administer his affairs and employ his labour and his faculties in freedom; to know his rights and to be able to exercise them; to be acquainted with his duties and fulfil them satisfactorily; to judge his own and other men's actions according to his own lights and to be a stranger to none of the high and delicate sentiments which honour human nature; not to be in a state of blind dependence upon those to whom he must entrust his affairs or the exercise of his rights; to be in a proper condition to choose and supervise them; to be no longer the dupe of those popular errors which torment man with superstitious fears and chimerical hopes; to defend himself against prejudice by the strength of his reason alone;

and, finally, to escape the deceits of charlatans who would lay snares for his fortune, his health, his freedom of thought and conscience under the pretext of enriching, healing and saving him.

From such time onwards the inhabitants of a single country will no longer be distinguished from one another by whether their use of their language is crude or refined; they will be able to govern themselves according to their own knowledge; they will no longer be limited to a mechanical knowledge of the procedures of the arts or of professional routine; they will no longer depend for every trivial piece of business, every insignificant matter of instruction on clever men who rule over them in virtue of their necessary superiority; and so they will attain a real equality, since differences in enlightenment or talent can no longer raise a barrier between men who understand each other's sentiments, ideas and language, some of whom may wish to be taught by others but, to do so, will have no need to be controlled by them or who may wish to confide the care of government to the most able of their number, but will not be compelled to yield them absolute power in a spirit of blind confidence.

This kind of supervision has advantages even for those who do not exercise it, since it is employed for them and not against them. Natural differences of ability between men whose understanding has not been cultivated give rise, even in savage tribes, to charlatans and dupes, to clever men and men readily deceived. These same differences are truly universal, but now they are differences only between men of learning and upright men who know the value of learning without being dazzled by it; or between talent or genius and the common sense which can appreciate and benefit from them; so that even if these natural differences were greater, and more extensive than they are, they would be only the more influential in improving the relations between men and promoting what is advantageous for their independence and happiness.

These various causes of equality do not act in isolation; they unite, combine and support each other, and so their cumulative effects are stronger, surer and more constant. With greater equality of education there will be greater equality in industry and so in wealth; equality in wealth necessarily leads to equality in education; and equality between the nations and equality within a single nation are mutually dependent.

So we might say that a well-directed system of education rectifies natural inequality in ability instead of strengthening it, just as good laws remedy natural inequality in the means of subsistence, and just as in societies where laws have brought about this same equality, liberty, though

subject to a regular constitution, will be more widespread, more complete than in the total independence of savage life. Then the social art will have fulfilled its aim: that of assuring and extending to all men enjoyment of the common rights to which they are called by nature.

The real advantages that should result from this progress, of which we can entertain a hope that is almost a certainty, can have no other term than that of the absolute perfection of the human race; since, as the various kinds of equality come to work in its favour by producing more plentiful ways of meeting our needs, more extensive education, more complete liberty, so equality will be more real and will embrace everything which is really of importance for the happiness of human beings.

It is, therefore, only by examining the progress and the laws of this perfection that we shall be able to understand the extent or the limits of our hopes.

No one has ever believed that the mind can gain knowledge of all the facts of nature, or attain the ultimate means of precision in the measurement, or in the analysis of the facts of nature the relations between objects and all the possible combinations of ideas. Even the relations between magnitudes, the mere notion of quantity or extension, taken in its fullest comprehension, gives rise to a system so vast that it will never be mastered by the human mind in its entirety, that there will always be a part of it, always indeed the larger part of it, that will remain forever unknown. People have believed that man can never know more than a part of the objects that the nature of his intelligence allows him to understand, and that he must in the end arrive at a point where the number and complexity of the objects that he already knows have absorbed all his strength, so that any further progress must be completely impossible.

But since, as the number of known facts increases, the human mind learns how to classify them and to subsume them under more general facts, and, at the same time, the instruments and methods employed in their observation and their exact measurement acquire a new precision; since, as more relations between various objects become known, man is able to reduce them to more general relations, to express them more simply, and to present them in such a way that it is possible to grasp a greater number of them with the same degree of intellectual ability and the same amount of application; since, as the mind learns to understand more complicated combinations of ideas, simpler formulae soon reduce their complexity; so truths that were discovered only by great effort, that could at first only be understood by men capable of profound thought,

are soon developed and proved by methods that are not beyond the reach of common understanding. If the methods which have led to these new combinations of ideas are ever exhausted, if their application to hitherto unsolved questions should demand exertions greater than either the time or the capacity of the learned would permit, some method of a greater generality or simplicity will be found so that genius can continue undisturbed on its path. The strength and the limits of man's intelligence may remain unaltered; and yet the instruments that he uses will increase and improve, the language that fixes and determines his ideas will acquire greater breadth and precision and, unlike mechanics where an increase of force means a decrease of speed, the methods that lead genius to the discovery of truth increase at once the force and the speed of its operations.

Therefore, since these developments are themselves the necessary consequences of progress in detailed knowledge, and since the need for new methods in fact only arises in circumstances that give rise to new methods, it is evident that, within the body of the sciences of observation, calculation and experiment, the actual number of truths may always increase, and that every part of this body may develop, and yet man's faculties be of the same strength, activity and extent.

If we apply these general reflections to the various sciences, we can find in each of them examples of progressive improvement that will remove any doubts about what we may expect for the future. We shall point out in particular the progress that is both likely and imminent in those sciences which prejudice regards as all but exhausted. We shall give examples of the manner and extent of the precision and unity which could accrue to the whole system of human knowledge as the result of a more general and philosophical application of the sciences of calculation to the various branches of knowledge. We shall show how favourable to our hopes would be a more universal system of education by giving a greater number of people the elementary knowledge which could awaken their interest in a particular branch of study, and by providing conditions favourable to their progress in it; and how these hopes would be further raised if more individuals possessed the means to devote themselves to these studies, for at present even in the most enlightened countries scarcely one in fifty of the people who have natural talents receives the necessary education to develop them; and how, if this were done, there would be a proportionate increase in the number of men destined by their discoveries to extend the boundaries of science.

We shall show how this equality in education and the equality which will come about between the different nations would accelerate the advance of these sciences, whose progress depends on repeated observations over a large area; what benefits would thereby accrue to mineralogy, botany, zoology and meteorology; and what a vast disproportion holds in all these sciences between the poverty of existing methods which have nevertheless led to useful and important new truths, and the wealth of those methods which man would then be able to employ.

We shall show how even the sciences in which discovery is the fruit of solitary meditation would benefit from being studied by a greater number of people, in the matter of those improvements in detail which do not demand the intellectual energy of an inventor, but suggest themselves to mere reflection.

If we turn now to the applied sciences, whose theory depends on these same pure sciences, we shall find that their progress, depending as it does on that of theory, can have no other limits; that the procedures of the different arts can be perfected and simplified in the same way as the methods of the sciences; new instruments, machines and looms can add to man's strength and can improve at once the quality and the accuracy of his productions, and can diminish the time and labour that has to be expended on them. The obstacles still in the way of this progress will disappear, accidents will be foreseen and prevented, the insanitary conditions that are due either to the work itself or to the climate will be eliminated.

A very small amount of ground will be able to produce a great quantity of supplies of greater utility or higher quality; more goods will be obtained for a smaller outlay; the manufacture of articles will be achieved with less wastage in raw materials and will make more durable use of them. Every type of soil will produce those things which satisfy the greatest number of needs; of several alternative ways of satisfying needs of the same order, that will be chosen which satisfies the greatest number of people and which requires least labour and least expenditure. So, without the need for sacrifice, methods of preservation and economy in expenditure will improve in the wake of progress in the arts of producing and preparing supplies and making articles from them.

So not only will the same amount of ground support more people, but everyone, while less painfully occupied, will be so in a more productive manner and be better able to satisfy his needs.

With all this progress in industry and welfare which establishes a happier proportion between men's talents and their needs, each successive

generation will have more extensive pleasures, either as a result of this progress or through the preservation of the products of industry; and so, as a consequence of the physical constitution of the human race, the number of people will increase. Might there not then come a moment when these necessary laws begin to work in a contrary direction; when, the number of people in the world finally exceeding the means of subsistence, there will in consequence ensue a continual diminution of happiness and population, a true retrogression or at best an oscillation between good and bad? In societies that have reached this stage will not this oscillation be a perennial source of more or less periodic disaster? Will it not show that a point has been attained beyond which all further improvement is impossible, that the perfectibility of the human race has after long years arrived at a term beyond which it may never go?

There is doubtless no one who does not think that such a time is still very far from us; but will it ever arrive? It is impossible to pronounce about the likelihood of an event that will occur only when the human species will have necessarily acquired a degree of knowledge of which we can have no inkling. And who would take it upon himself to foresee where the art of converting the elements to the use of man may one day lead?

But even if we agree that the limit will one day arrive, nothing follows from it that is in the least alarming as far as either the happiness of the human race or its indefinite perfectibility is concerned; if we consider that, before all this comes to pass, the progress of reason will have kept pace with that of the sciences, and that the absurd prejudices of superstition will have ceased to corrupt and degrade the moral code by its harsh doctrines rather than purifying and elevating it, we can assume that by then men will know that, if they have a duty towards those who are not yet born, that duty is not to give them existence but to give them happiness; their aim should be to promote the general welfare of the human race, or of the society in which they live or of the family to which they belong, rather than foolishly to encumber the world with useless and wretched beings. It is, then, possible that there should be a limit to the amount of food that can be produced, and, consequently, to the size of the population of the world, without this involving that untimely destruction of some of those creatures who have been given life, which is so contrary to nature and to social prosperity.

Since the discovery, or rather the exact analysis of the first principles, of metaphysics, morals and politics is still recent and was preceded by the knowledge of a large number of detailed truths, the false notion that they

have thereby attained their destination has gained ready acceptance; men imagine that, because there are no more crude errors to refute, no more fundamental truths to establish, nothing remains to be done.

But it is easy to see how imperfect is the present analysis of man's moral and intellectual faculties; how much further the knowledge of his duties, which presumes a knowledge of the influence of his actions upon the welfare of his fellow men and upon the society to which he belongs, can still be increased through a more profound, more accurate, more considered observation of that influence; how many questions have to be solved, how many social relations to be examined, before we can have precise knowledge of the individual rights of man and the rights that the state confers upon each in regard to all. Have we yet ascertained at all accurately the limits of the rights that exist between different societies in times of war, or that are enjoyed by society over its members in times of trouble and schism, or that belong to individuals, or spontaneous associations at the moment of their original, free formation or of their necessary disintegration?

If we pass on to the theory which ought to direct the application of particular principles and serve as the foundation for the social art, do we not see the necessity of acquiring a precision that these elementary truths cannot possess as long as they are absolutely general? Have we yet reached the point when we can reckon as the only foundation of law either justice or a proved and acknowledged utility instead of the vague, uncertain, arbitrary views of alleged political expediency? Are we yet in possession of any precise rules for selecting out of the almost infinite variety of possible systems in which the general principles of equality and natural rights are respected those which will best secure the preservation of these rights, which will afford the freest scope for their exercise and their enjoyment, and which will moreover ensure the leisure and welfare of individuals and the strength, prosperity and peace of nations?

The application of the calculus of combinations and probabilities to these sciences promises even greater improvement, since it is the only way of achieving results of an almost mathematical exactitude and of assessing the degree of their certainty or likelihood. Sometimes, it is true, the evidence upon which these results are based may lead us, without any calculation, at the first glance, to some general truth and teach us whether the effect produced by such-and-such a cause was or was not favourable, but if this evidence cannot be weighed and measured, and if these effects cannot be subjected to precise measurement, then we

cannot know exactly how much good or evil they contain; or, again, if the good and evil nearly balance each other, if the difference between them is slight, we cannot pronounce with any certainty to which side the balance really inclines. Without the application of the calculus it would be almost impossible to choose with any certainty between two combinations that have the same purpose and between which there is no apparent difference in merit. Without the calculus these sciences would always remain crude and limited for want of instruments delicate enough to catch the fleeting truth, of machines precise enough to plumb the depths where so much that is of value to science lies hidden.

However, such an application, notwithstanding the happy efforts of certain geometers, is still in its earliest stages; it will be left to the generations to come to use this source of knowledge which is as inexhaustible as the calculus itself, or as the number of combinations, relations and facts that may be included in its sphere of operation.

There is another kind of progress within the sciences that is no less important; and that is the perfection of scientific language which is at present so vague and obscure. This improvement could be responsible for making the sciences genuinely popular, even in their basic elements. Genius can triumph over the inexactitude of language as over other obstacles and can recognise the truth through the strange mask that hides or disguises it. But how can someone with only a limited amount of leisure to devote to his education master and retain even the most simple truths if they are distorted by an imprecise language? The fewer the ideas that he is able to acquire and combine, the more necessary is it that they should be precise and exact. He has no fund of knowledge stored up in his mind which he can draw upon to protect himself from error, and his understanding, not being strengthened and refined by long practice, cannot catch such feeble rays of light as manage to penetrate the obscurities, the ambiguities of an imperfect and perverted language.

Until men make as much real progress in the practice of morals as well as in the sciences, it will be impossible for them to attain any insight into either the nature and development of the moral sentiments, the principles of morality, the natural motives that prompt their actions, or their own true interests either as individuals or as members of society. Is not a mistaken sense of interest the most common cause of actions contrary to the general welfare? Is not the violence of our passions often the result either of habits that we have adopted through miscalculation, or of our ignorance how to restrain them, tame them, deflect them, rule them?

Is not the habit of reflection upon conduct, of listening to the deliverances of reason and conscience upon it, of exercising those gentle sentiments which identify our happiness with that of others, the necessary consequence of a well-planned study of morality and of a greater equality in the conditions of the social pact? Will not the free man's sense of his own dignity and a system of education built upon a deeper knowledge of our moral constitution, render common to almost every man those principles of strict and unsullied justice, those habits of an active and enlightened benevolence, of a delicate and generous sensibility which nature has implanted in the hearts of all and whose flowering waits only upon the favourable influences of enlightenment and freedom? Just as the mathematical and physical sciences tend to improve the arts that we use to satisfy our most simple needs, is it not also part of the necessary order of nature that the moral and political sciences should exercise a similar influence upon the motives that direct our sentiments and our actions?

What are we to expect from the perfection of laws and public institutions, consequent upon the progress of those sciences, but the reconciliation, the identification of the interests of each with the interests of all? Has the social art any other aim save that of destroying their apparent opposition? Will not a country's constitution and laws accord best with the rights of reason and nature when the path of virtue is no longer arduous and when the temptations that lead men from it are few and feeble?

Is there any vicious habit, any practice contrary to good faith, any crime, whose origin and first cause cannot be traced back to the legislation, the institutions, the prejudices of the country wherein this habit, this practice, this crime can be observed? In short, will not the general welfare that results from the progress of the useful arts once they are grounded on sound theory, or from the progress of legislation once it is rooted in the truths of political science, incline mankind to humanity, benevolence and justice? In other words, do not all these observations which I propose to develop further in my book, show that the moral goodness of man, the necessary consequence of his constitution, is capable of indefinite perfection like all his other faculties, and that nature has linked together in an unbreakable chain truth, happiness and virtue?

Among the causes of the progress of the human mind that are of the utmost importance to the general happiness, we must number the complete annihilation of the prejudices that have brought about an inequality of rights between the sexes, an inequality fatal even to the party in whose favour it works. It is vain for us to look for a justification of this principle

in any differences of physical organisation, intellect or moral sensibility between men and women. This inequality has its origin solely in an abuse of strength, and all the later sophistical attempts that have been made to excuse it are vain.

We shall show how the abolition of customs authorised, laws dictated by this prejudice, would add to the happiness of family life, would encourage the practice of the domestic virtues on which all other virtues are based, how it would favour the progress of education and how, above all, it would bring about its wider diffusion; for not only would education be extended to women as well as to men, but it can only really be taken proper advantage of when it has the support and encouragement of the mothers of the family. Would not this belated tribute to equity and good sense put an end to a principle only too fecund of injustice, cruelty and crime, by removing the dangerous conflict between the strongest and most irrepressible of all natural inclinations and man's duty or the interests of society? Would it not produce what has until now been no more than a dream, national manners of a mildness and purity, formed not by proud asceticism, not by hypocrisy, not by the fear of shame or religious terrors, but by freely contracted habits that are inspired by nature and acknowledged by reason?

Once people are enlightened they will know that they have the right to dispose of their own life and wealth as they choose; they will gradually learn to regard war as the most dreadful of scourges, the most terrible of crimes. The first wars to disappear will be those into which usurpers of natural sovereignty have forced their subjects in defence of their pretended hereditary rights.

Nations will learn that they cannot conquer other nations without losing their own liberty; that permanent confederations are their only means of preserving their independence; and that they should seek not power but security. Gradually mercantile prejudices will fade away; and a false sense of commercial interest will lose the fearful power it once had of drenching the earth in blood and of ruining nations under the pretext of enriching them. When at last the nations come to agree on the principles of politics and morality, when in their own better interests they invite foreigners to share equally in all the benefits men enjoy either through the bounty of nature or by their own industry, then all the causes that produce and perpetuate national animosities and poison national relations will disappear one by one; and nothing will remain to encourage or even to arouse the fury of war.

Organisations more intelligently conceived than those projects of eternal peace which have filled the leisure and consoled the hearts of certain philosophers, will hasten the progress of the brotherhood of nations, and wars between countries will rank with assassinations as freakish atrocities, humiliating and vile in the eyes of nature and staining with indelible opprobrium the country or the age whose annals record them.

When we spoke of the fine arts in Greece, Italy and France, we observed that it was necessary to distinguish in artistic productions between what belonged properly to the progress of the art itself and what was due only to the talent of the individual artist. We shall here indicate what progress may still be expected in the arts as a result of the progress in philosophy and the sciences, of the increasing number and depth of observations concerning the aim, effects and methods of the arts, of the destruction of those prejudices which have formerly narrowed their sphere and even now hold them within the shackles of authority, shackles that science and philosophy have broken. We shall ask, whether, as some have thought, these means are exhausted and the arts condemned to an eternal, monotonous imitation of their first models since the most sublime and moving beauty has already been apprehended, the happiest subjects treated, the simplest and most arresting ideas used, the most marked or most generous characters delineated, the liveliest intrinsic passions and their truest or most natural manifestations, the most striking truths and the most brilliant images already exploited.

We shall see that this opinion is a mere prejudice, born of the habit, which is prevalent among artists and men of letters, of judging men instead of enjoying their works. If the more reflective pleasure of comparing the products of different ages and countries and admiring the success and energy of the efforts of genius will probably be lost, the pleasure to be derived from the actual contemplation of works of art as such will be just as vivid as ever, even though the author may no longer deserve the same credit for having achieved such perfection. As works of art genuinely worthy of preservation increase in number, and become more perfect, each successive generation will devote its attention and admiration to those which really deserve preference, and the rest will unobtrusively fall into oblivion; the pleasure to be derived from the more simple, more striking, more accessible aspects of beauty will exist no less for posterity, although they will be found only in the most modern works.

The progress of the sciences ensures the progress of the art of education which in turn advances that of the sciences. This reciprocal influence,

whose activity is ceaselessly renewed, deserves to be seen as one of the most powerful and active causes working for the perfection of mankind. At the present time a young man on leaving school may know more of the principles of mathematics than Newton ever learnt in years of study or discovered by dint of genius, and he may use the calculus with a facility then unknown. The same observation, with certain reservations, applies to all the sciences. As each advances, the methods of expressing a large number of proofs in a more economical fashion and so of making their comprehension an easier matter advance with it. So, in spite of the progress of science, not only do men of the same ability find themselves at the same age on a level with the existing state of science, but with every generation that which can be acquired in a certain time with a certain degree of intelligence and a certain amount of concentration will be permanently on the increase, and, as the elementary part of each science to which all men may attain grows and grows, it will more and more include all the knowledge necessary for each man to know for the conduct of the ordinary events of his life, and will support him in the free and independent exercise of his reason.

In the political sciences there are some truths that, with free people (that is to say, with certain generations in all countries), can be of use only if they are widely known and acknowledged. So, the influence of these sciences upon the freedom and prosperity of nations must in some degree be measured by the number of truths that, as a result of elementary instruction, are common knowledge; the swelling progress of elementary instruction, connected with the necessary progress of these sciences promises us an improvement in the destiny of the human race, which may be regarded as indefinite, since it can have no other limits than that of this same progress.

We have still to consider two other general methods which will influence both the perfection of education and that of the sciences. One is the more extensive and less imperfect use of what we might call technical methods; the other is the setting up of a universal language.

I mean by technical methods the art of arranging a large number of subjects in a system so that we may straightway grasp their relations, quickly perceive their combinations and readily form new combinations out of them.

We shall develop the principles and examine the utility of this art, which is still in its infancy, and which, as it improves, will enable us, within the compass of a small chart, to set out what could possibly not be expressed

so well in a whole book, or, what is still more valuable, to present isolated facts in such a way as to allow us to deduce their general consequences. We shall see how by means of a small number of these charts, whose use can easily be learned, men who have not been sufficiently educated to be able to absorb details useful to them in ordinary life, may now be able to master them when the need arises; and how these methods may likewise be of benefit to elementary education itself in all those branches where it is concerned either with a regular system of truths or with a series of observations and facts.

A universal language is that which expresses by signs either real objects themselves, or well-defined collections composed of simple and general ideas, which are found to be the same or may arise in a similar form in the minds of all men, or the general relations holding between these ideas, the operations of the human mind, or the operations peculiar to the individual sciences or the procedures of the arts. So people who become acquainted with these signs, the ways to combine them and the rules for forming them will understand what is written in this language and will be able to read it as easily as their own language.

It is obvious that this language might be used to set out the theory of a science or the rules of a practical art, to describe a new observation or experiment, the invention of a procedure, the discovery of a truth or a method; and that, as in algebra, when one has to make use of a new sign, those already known provide the means of explaining its import.

Such a language does not have the disadvantages of a scientific idiom different from the vernacular. We have already observed that the use of such an idiom would necessarily divide society into two unequal classes: the one composed of men who, understanding this language, would possess the key to all the sciences; the other of men who, unable to acquire it, would therefore find themselves almost completely unable to acquire enlightenment. In contrast to this, a universal language would be learnt, like that of algebra, along with the science itself; the sign would be learnt at the same time as the object, idea or operation that it designates. He who, having mastered the elements of a science, would like to know more of it, would find in books not only truths he could understand by means of the signs whose import he has learnt, but also the explanation of such further signs as he needs in order to go on to other truths.

We shall show that the formation of such a language, if confined to the expression of those simple, precise propositions which form the system of a science or the practice of an art, is no chimerical scheme; that even at

the present time it could be readily introduced to deal with a large number of objects; and that, indeed, the chief obstacle that would prevent its extension to others would be the humiliation of having to admit how very few precise ideas and accurate, unambiguous notions we actually possess.

We shall show that this language, ever improving and broadening its scope all the while, would be the means of giving to every subject embraced by the human intelligence, a precision and a rigour that would make knowledge of the truth easy and error almost impossible. Then the progress of every science would be as sure as that of mathematics, and the propositions that compose it would acquire a geometrical certainty, as far, that is, as is possible granted the nature of its aim and method.

All these causes that contribute to the perfection of the human race, all these means that ensure they must by their very nature exercise a perpetual influence and always increase their sphere of action. The proofs of this we have given and in the great work they will derive additional force from elaboration. We may conclude then that the perfectibility of man is indefinite. Meanwhile, we have considered him as possessing the natural faculties and organisation that he has at present. How much greater would be the certainty, how must more vast the scheme of our hopes if we could believe that these natural faculties themselves and this organisation could also be improved? This is the last question that remains for us to ask ourselves.

Organic perfectibility or deterioration amongst the various strains in the vegetable and animal kingdom can be regarded as one of the general laws of nature. This law also applies to the human race. No one can doubt that, as preventative medicine improves and food and housing become healthier, as a way of life is established that develops our physical powers by exercise without ruining them by excess, as the two most virulent causes of deterioration, misery and excessive wealth, are eliminated, the average length of human life will be increased and a better health and a stronger physical constitution will be ensured. The improvement of medical practice, which will become more efficacious with the progress of reason and of the social order, will mean the end of infectious and hereditary diseases and illnesses brought on by climate, food or working conditions. It is reasonable to hope that all other diseases may likewise disappear as their distant causes are discovered. Would it be absurd then to suppose that this perfection of the human species might be capable of indefinite progress, that the day will come when death will be due

only to extraordinary accidents or to the decay of the vital forces, and that ultimately the average span between birth and decay will have no assignable value? Certainly, man will not become immortal, but will not the interval between the first breath that he draws and the time when in the natural course of events, without disease or accident, he expires, increase indefinitely? Since we are now speaking of a progress that can be represented with some accuracy in figures or on a graph, we shall take this opportunity of explaining the two meanings that can be attached to the word *indefinite*.

In truth, this average span of life which we suppose will increase indefinitely as time passes, may grow in conformity either with a law such that it continually approaches a limitless length but without ever reaching it, or with a law such that through the centuries it reaches a length greater than any determinate quantity that we may assign to it as its limit. In the latter case, such an increase is truly indefinite in the strictest sense of the word, since there is no term on this side of which it must of necessity stop. In the former case, it is equally indefinite in relation to us, if we cannot fix the limit it always approaches without ever reaching, and particularly if, knowing only that it will never stop, we are ignorant in which of the two senses the term 'indefinite' can be applied to it. Such is the present condition of our knowledge as far as the perfectibility of the human race is concerned; such is the sense in which we may call it indefinite.

So, in the example under consideration, we are bound to believe that the average length of human life will forever increase unless this is prevented by physical revolutions; we do not know what the limit is which it can never exceed. We cannot tell even whether the general laws of nature have determined such a limit or not.

But are not our physical faculties and the strength, dexterity and acuteness of our senses to be numbered among the qualities whose perfection in the individual may be transmitted? Observation of the various breeds of domestic animals inclines us to believe that they are, and we can confirm this by direct observation of the human race.

Finally, may we not extend such hopes to the intellectual and moral faculties? May not our parents, who transmit to us the benefits or disadvantages of their constitution, and from whom we receive our shape and features, as well as our tendencies to certain physical affections, hand on to us also that part of the physical organisation which determines the intellect, the power of the brain, the ardour of the soul or the moral sensibility? Is it not probable that education, in perfecting these qualities, will

at the same time influence, modify and perfect the organisation itself? Analogy, investigation of the human faculties and the study of certain facts, all seem to give substance to such conjectures which would further push back the boundaries of our hopes.

These are the questions with which we shall conclude this final epoch. How consoling for the philosopher who laments the errors, the crimes, the injustices which still pollute the earth and of which he is often the victim is this view of the human race, emancipated from its shackles, released from the empire of chance from that of the enemies of its progress, advancing with a firm and sure step along the path of truth, virtue and happiness! It is the contemplation of this prospect that rewards him for all his efforts to assist the progress of reason and the defence of liberty. He dares to link these strivings to the eternal chain of human destiny; and in this persuasion he finds the true reward of virtue, the pleasure of having done some lasting good which fate can no longer destroy by a sinister stroke of revenge, by restoring the reign of slavery and prejudice. Such contemplation is for him a refuge where the memory of his persecutors cannot pursue him; there he lives in thought, with man restored to his natural rights and dignity, and forgets how man can be tormented and corrupted by greed, fear, or envy. There he truly lives with his peers in an Elysium that his reason has been able to create for him and that his love for humanity enhances with the purest joys.

On slavery.
Rules for the *Society of the Friends*
of *Negroes* (1788)

Preamble

Any society which wants to stimulate general interest must explain to the public *the reasons why it has been formed and the aims it intends to fulfil*; a task which is more important for the *Society of the Friends of Negroes* than for any other of the many societies this century has nurtured. These other tributes to humanity and benevolence needed simply to be publicised in order to evoke compassion; the unfortunate people who needed help were there, before our very eyes; the help requested was merely financial and could be obtained simply by directing the public's attention towards the picture of misfortune. The *Society of the Friends of Negroes* does not have the same advantages: the unfortunate victims we have befriended are being sacrificed far away; the men who could become their true protectors are themselves blinded by cruel prejudice; and no amount of money could ease their suffering. But just because their hardship is linked with powerful political interests, because their chains are made heavier still by the blind force of prejudice and because there are great obstacles to overcome, we must not forget that this time it is not just a small group of people that we are trying to help, but an entire race; part of the world, crushed beneath the weight of its chains, cries out to us for the restoration of its sacred human rights.

To understand the reasons for the formation of the *Society of the Friends of Negroes*, we need simply think for a moment about the negro

slave trade and trace its development through to the present, when its victims are groaning under the yoke of slavery.

The people of Africa, constantly at war with one another, are prey to all the evil powers which tyrannise these unfortunate countries.

No reason for their constant conflicts or for the dreadful fate to which Africans have been subjected can be found in their customs, colour or moral character; we stand condemned by reason of the superiority of civilised nations over uncivilised ones. Our trade could have moderated their customs if it had not been in our interests to perpetuate their vices. However hard we try, we will never be able to convince any thinking man that these poor people are responsible for the shameful trafficking of their freedom.

From the very beginning, this trade (since we dare to call it that) has borne the stamp of deception and injustice. We have no compunction in offering them damaged goods in exchange for their freedom; goods whose value stems only from the ignorance of the recipients, firearms which we no longer feel we can safely use, but which in their hands serve to prepare our victims, and alcoholic liquor designed to preserve the brutishness and frenzy without which the slave trade would cease to exist. Initially, we are simply ourselves doing an injustice; since they know nothing else, uncivilised nations regard our deceptive gifts as truly valuable, while we know that they are sufficient to stimulate their greed and avarice. The richest Negro is the one who has placed the largest number of his fellows in our chains; greed has become their dominant passion, drowning out the voice of nature. When strength is not enough to satisfy their greed and they do not have enough prisoners, they select slaves for us from amongst their own women and children. What does it matter to us? If we could do so without danger, we would even enchain the man providing the slaves.¹

Scarcely are these unfortunate people in our power than they realise the value of the freedom they have lost and the emptiness of the consolation they had expected from the love of property. Once on the ship to be transported, each person is squashed into the smallest possible space and surrounded by chains. At the slightest protest, his chains are made

¹ Men supplying slaves have sometimes been enslaved themselves. While this seemingly well-deserved punishment does not excite much pity, we cannot, however, fail to be revolted by such atrocious treachery.

heavier; at the slightest groan, he is whipped; and any sign of anger or despair is punished by death. Proving that these conditions are contrary to the interests of the ship-owner makes no difference; interests often go beyond the bounds of prudence and we should not expect to find enlightened interests in this kind of trafficking.² Besides, those who succumb to bad treatment and illness during the crossing are the lucky ones, for those who reach the West Indies eventually lose all their human characteristics. No sooner have they disembarked than they are put up for auction where, like animals, they are given the degrading marks of servitude.³ We might imagine that if their physical strength or moral weakness has enabled them to survive this kind of treatment, they will not succumb under the weight of their chains; however, more perish in the course of the first year.⁴ This should come as no surprise if we consider that a slave's only protection is the interest of the man whose property he has become. We cannot resolve this by establishing laws to fix the limits of the master's power, for such laws can be upheld only by the master himself. The slave's condition is so bad that he cannot even invoke a law to ensure his own protection. We deprive the Negro of all his moral faculties and then declare him inferior to us, and consequently destined to carry our chains. This is a monstrous mixture of injustice and cruelty. No compassionate person could ever stop hoping for an end to this appalling situation, which contradicts all the laws of humanity.

This is undoubtedly why several beneficent French ministers have been prompted to seek ways of destroying this system.⁵ Considerations such

² This cruelty seems at first to be based on totally false principles, but can be explained to some extent by the fact that ships' captains who conduct the slave trade receive from the man who commissioned them a certain percentage of the Negroes they transport or a certain percentage of the proceeds of their sale. The privateer is also free to insure the Negroes' lives. It is therefore very probable that several of these unfortunate people have perished simply to benefit the privateer at the insurer's expense. Indeed, research conducted in England has provided proof of this.

³ When a man buys a Negro, he has his name stamped on the slave's chest with a hot iron. This process is called branding. When the Negro changes master he is branded once again, so that anyone unfortunate enough to change masters several times may be scarred all over by this gruesome practice.

⁴ It would not be an exaggeration to say that more than one in four perish.

⁵ Although M. Turgot was Minister for the Navy for just one month, he had already begun to look for ways of destroying the Negro slave trade and slavery. As Controller General, he rejected one trader's proposal that he give his name to a building destined for use by slave traders. His rejection was so forceful that he caused the privateers considerable alarm.

M. Necker, on pp. 262–263 of his book, writes as follows: 'As we have just seen, the French colonies contain almost 500,000 slaves, and this number is used as a gauge of their

as these opened the eyes of Quakers, showing them that the Negro slave trade and slavery could not be reconciled with the principles of equality, gentleness and humanity which they profess; they led the United States to encourage the formation of societies in America to assist the vast numbers of victims; they led England to follow the same example, establishing a large society which devoted considerable funds to the research required to prove the necessity of abolishing the slave trade. It is for these reasons that a Society was established in this capital – a society which all charitable men will support, to which clever men will devote their enlightenment, which will undoubtedly obtain government protection and which cannot fail to provoke general interest. This interest will develop further when people see our moderate defence of a cause designed to provoke passions, when we are seen to be calm in our study of matters which will revolt humanity and to oppose prejudice with facts and calculation alone; and, finally, when the wise rules of our Society force us constantly to strive *for the goals we have set ourselves* and which we aim to publicise.

Now that this account of the reasons for its establishment has been presented, there can be no doubt about the aims of the *Society of the Friends of Negroes*. The combination of mankind suffering in one corner of the world while greed and cruelty are encouraged in the other is bound to produce horrific scenes, since the laws of justice are infringed by all nations which are engaged in the Negro slave trade or who benefit

fortune. This appalling situation provides a great deal of food for thought. How inconsistent we are, both in our morals and in our principles. We preach humanity and yet every year we enchain 20,000 Africans. We call the Moors barbarians and brigands when they risk their own freedom to attack that of Europeans; and yet speculating Europeans, with no risk of danger, use money to stimulate the slave trade and all the bloody scenes which precede it! We pride ourselves on the greatness of Man, basing this on the mystery of all our intellectual faculties, and yet a small difference in hair or in skin colour is enough to change our respect into scorn and to make us rank beings similar to us on a level with unintelligent animals, to place a yoke on their shoulders and to dispose of their strength and their instinct ... Only with time could a free race do this work itself, but the great difference between the price of these two types of labour would so advantage trading nations which had kept their old customs that, before long, we would be deterred from trying to surpass them in virtue. This plan for a general pact by which all nations would renounce the slave trade with one common accord is not simply a dream. This kind of agreement would not alter their current positions relative to one another, for only comparative wealth is important in calculations of power.'

During his time as a minister, M. le Maréchal de Castries examined ways of softening the fate of Negroes. The last ruling he made in their favour was dictated by humanity and kindness, and he would undoubtedly have praised the enthusiasm and work of the *Society for the Friends of Negroes*.

from their slavery. The need to stamp out the source of so much evil is apparent everywhere, and this is the goal which the *Society of the Friends of Negroes* has set itself.

The name we have chosen for ourselves would undoubtedly have been enough to make our intentions clear. However, since we intend to concentrate on useful work, we need to repel in advance anyone who attempts to sow suspicion by accusing us of having no fixed aims, by presenting us as a dangerous institution with the sole aim of discrediting a branch of commerce which has become necessary or, finally, by ridiculing us and claiming that we are insubstantial, inconsequential and controlled by passion alone. It is therefore important for the *Society of the Friends of Negroes* to make known the principles and spirit by which it is governed.

The discussion of the present system is of interest to the whole of mankind. It would be neither prudent nor politic at the moment for any nation which conducts a slave trade to ignore this important question; the first nation which raised it necessitated others to consider it as well. It is therefore probable that the slave trade will be abolished by a general agreement or pact between the powers. The Quakers are currently preaching this as a point of doctrine; in the United States, where there is general opposition to the slave trade,⁶ various American societies have been formed to protect the unfortunate Africans, and have been enthusiastically received. While our supporters are finding out the facts in our colonies, this important cause is being forcefully pleaded in England where, although Parliament has deferred its decision on the matter, it has praised the Society concerned. Could France be the only European power to remain indifferent? Surely it is in our government's best interests to be well informed, so that it can follow every step taken by the other powers and find solid foundations on which to base its own actions?

Colonists will be prevented by a cruel but time-honoured prejudice⁷ from examining a question which is far removed from all their concerns; this prejudice may influence the administrators sent to the region by the

⁶ Ten States have forbidden the importation of Negroes. Eight of these have only a few slaves, but the other two – Virginia and Pennsylvania – have a great many. One of the other three States, South Carolina, has forbidden the importation of Negroes for a period of three years: thus, Georgia and North Carolina are currently the only States where the importation of Negroes is permitted.

⁷ *The Just Limitation of Slavery* by Granville Sharp [a leading English anti-slavery propagandist], p. 54 onwards. Fothergill devoted a considerable sum of money to try to cultivate the African coast, and began a subscription fund for the same purpose. He died before being able to complete his project, but since then the English have apparently had some

government; also, owners of plantations who remain in France, seeing only the produce received from the colonies, are bound to reject outright any kind of change.⁸ Slave trade privateers will oppose any project of this kind. Since most of them will have no direct interest in the examination of such a delicate question, and will flinch at the thought of the amount of information to be collected and the huge extent of the research to be done, they are bound to criticise any undertaking of this kind without even trying to understand it. So how can the government shed light on this important question? It will constantly be wary of being misled by errors resulting from prejudice, by particular interests, by insincerity and, above all, by ignorant men who are always ready to criticise and quick to decide. Only a society of men brought together by principles of humanity and justice can assemble all the facts and vouch for their authenticity, collect all the proposals for changing the present system, examine them, subject them to calculation, look for any information they may be lacking and obtain it, pose questions, find the answers and compare them, and finally form a considered plan of action, implement it and maybe even conduct some experiments. This is the only way to present the government with plans which are sufficiently detailed and based on facts and calculations to deserve their consideration, to enlighten the colonists about their interests (at the same time as benefiting from their enlightenment and their experience), and to apply this lengthy work and research to the greater or lesser task of destroying an evil which shocks both justice and humanity.

The slave trade must be abolished by a general agreement, but this happy revolution can only be the result of our convictions. With this permanently in mind, the Society will attempt to discover, balance and accommodate the interests of all concerned.

If the *Society of the Friends of Negroes* intended to present a doctrine, or to inveigle or seduce people, it would insist upon a profession of faith from all its members and carefully avoid anyone who might contradict its views. Yet its rules show that any individual presented by a member of

success on the coast. If colonial lands can be cultivated properly, surely it is time to award them the real value of which they are deprived in the present system.

⁸ When we consider that Negro women are fertile, that the climate in the West Indies is not dissimilar to the natural climate of the Negroes, that population size adjusts very quickly to the means of survival, and therefore in this case to the owners' interest in increasing their Negroes, we find that the slave trade probably is not necessary, and therefore that both the government and the owners have very good reasons for requiring its abolition.

the Society can be admitted, provided that he obtains the support of four other members. This formality was vital to make certain of the membership of this society. While we cannot have the same confidence about the results of the *Society of the Friends of Negroes*, there can be few sentient beings who do not share our desires; this fact alone is enough for a person to want to become a member, to follow the work of the Society and to examine its progress and that of foreign societies. We are already lucky enough to number some planters amongst our members. Far from attacking those whose opinions might seem to distract us from our goals, we ensure that discussion alone is the path towards the enlightenment for which we aim. It is vital that the other side of the argument is heard, for while we obviously hope to destroy all objections, it would be more dangerous still to be ignorant of their existence.

If the *Society of the Friends of Negroes* still needed to provide proof of its openness, such proof could be found in the reasons for the subscription it requires. It is well to make these public. Although several people have already been so moved by the use for which these subscriptions are destined that they have given the Society considerable sums of money, the subscription rate has been fixed at just 2 louis for Paris and 1 louis for the provinces, so that no one who might be of assistance would be deterred from joining. This subscription is devoted not only to publicising the results of the Society's work, but also to the publication at a moderate price of all works which may throw some light on this important question, to enable everyone to profit from the research and from the documents belonging to the Society or sent to the Society from foreign societies, and to enable public opinion to be the prime judge of this noble and moving cause.

The Society is bound to encounter great obstacles and will have to accommodate great interests, but the sweet hope of the possible rewards will keep up its spirits and preserve its courage.

We are trying to save millions of men from ignominy and death,⁹ to enlighten those in power about their true interests and to restore to a whole section of the world the sacred rights given to them by nature. It would be a great triumph for our century if a thorough examination

⁹ See *The Influence of the Discovery of America* by M. l'Abbé Genty [Paris, 1788]. We should like to be able to transcribe here the sections from p. 165 to p. 185 and from p. 331 to p. 338. This sensitive and enlightened writer, whose profound *Studies* inspire confidence, says on p. 334, 'Servitude consumes men with quite terrifying speed; the 9 million Negroes imported into America now number just 1,500,000.'

of the question, economic research, political calculations and, above all, the vital link between all the societies concerned with the question could enable us even simply to envisage the possibility of enacting this important revolution. What a reward for all those whose work enabled them to help determine such an event!

On the emancipation of women.
On giving women the right
of citizenship (1790)

Habit can so familiarise men with violations of their natural rights that those who have lost them neither think of protesting nor believe they are unjustly treated.

Some of these violations even escaped the notice of the philosophers and legislators who enthusiastically established the rights common to all members of the human race, and made these the sole basis of political institutions.

Surely they were all violating the principle of equal rights by debarring women from citizenship rights, and thereby calmly depriving half of the human race of the right to participate in the formation of the laws. Could there be any stronger evidence of the power of habit over enlightened men than the picture of them invoking the principle of equal rights for three or four hundred men who had been deprived of equal rights by an absurd prejudice, and yet forgetting it with regard to 12 million women?

For this exclusion not to constitute an act of tyranny, we would have to prove that the natural rights of women are not exactly the same as those of men, or else that they are incapable of exercising them.

The rights of men stem exclusively from the fact that they are sentient beings, capable of acquiring moral ideas and of reasoning upon them. Since women have the same qualities, they necessarily also have the same

rights. Either no member of the human race has any true rights, or else they all have the same ones; and anyone who votes against the rights of another, whatever his religion, colour or sex, automatically forfeits his own.

It would be difficult to prove women incapable of exercising the right of citizenship. Why should people who experience pregnancies and monthly indispositions be unable to exercise rights we would never refuse to men who have gout every winter or who catch cold easily? People argue that, differences in education apart, men are still naturally more intelligent than women; but this is far from being proven, and would have to be before women could justly be deprived of a natural right. Even if we did accept it, their superiority would consist in just two points. It is said that no woman has ever made an important scientific discovery, or shown signs of genius in the arts or in literature, and so on, but we would hardly attempt to limit citizenship rights only to men of genius. It is also said that no woman has the same breadth of knowledge, or the same power of reason, as certain men; but this simply means that, with the exception of a small class of very enlightened men, there is complete equality between women and all other men; and that, this small class apart, both sexes have an equal share of inferior and superior minds. It would be quite absurd to limit the right of citizenship and the ability to discharge public functions to the superior class. Why, then, should we exclude women, rather than those men who are inferior to a great many women?

People also claim that there are certain qualities in a woman's mind or heart which should debar her from the enjoyment of her natural rights. Let us study the facts. Queen Elizabeth of England, Maria-Theresa and the two Catherine of Russia all proved that women lack neither strength of mind nor the courage of their convictions.

Elizabeth had all the pettiness of women; but was this any more damaging to her reign than the pettiness of her father or her successor was to theirs? Did the lovers of some empresses exert a more dangerous influence than the mistresses of Louis XIV, Louis XV or even Henri IV?

Would Mistress Macaulay not have argued better in the House of Commons than many of the representatives of the British nation? During the discussion of freedom of conscience, would she not have emerged as more principled and more intelligent than Pitt? Although she is as much a supporter of freedom as Mr Burke is of tyranny, her defence of the French constitution would never have resorted to the revoltingly absurd gibberish with which this famous rhetorician has just attacked

it. Would Montaigne's adopted daughter not have defended the rights of citizens in the French States of 1614 better than Councillor Courtin, who believed in sorcery and the power of the occult? Was not the princess of the Ursins rather better than Chamillard? Could the marquise du Châtelet not have written a dispatch just as well as M. Rouillé? Would Mme de Lambert have accepted such absurd and barbarous laws as those passed by d'Armenonville, the Keeper of the Seals, against Protestants, thieving servants, smugglers and negroes? Men have no real reason to be so proud when they cast their eyes over the list of those who have governed them.¹

¹ The people mentioned in this paragraph are:

Catherine Gambridge Macaulay (Graham), 1731–91. Radical and republican. She published a *History of England* in 1763 which was well received in France when translated in 1791. Visited America in 1785 for the express purpose of greeting George Washington, whom she greatly admired. She published anonymously *Observations on the Reflections of the Right Honourable Edmund Burke on the Revolution in France, in a letter to the Earl of Stanhope* in 1790.

Edmund Burke's *Reflections on the Revolution in France* was published in 1790.

Marie le Jars de Gournay, 1566–1645. Admirer of Montaigne, whose *Essais* she re-edited in 1595. Author of *L'Ombre de Mademoiselle de Gournay*, a collection of verse and essays.

Councillor Courtin is probably Germain Courtin, Seigneur de Monsel, 1587–1667, a prolific writer on 'medical' matters who was made Conseiller d'Etat in 1624.

Marie-Anne de la Tremoille, princesse des Ursins, 1642–1722. Played an important role in Spanish politics through her intrigues at the court of Philip V until 1714 when she was dismissed by the new queen.

Michel de Chamillard, 1651–1721. Became Minister of Finance in 1699 and Minister of War in 1701. Resigned 1708 and 1709. Owed his offices to Mme de Maintenon, who wished the king to be surrounded by nonentities. An honest and inoffensive man, he protested to Louis XIV that he was incapable of holding these offices, but Louis promised to support him. A contemporary rumour on the reason for his elevation was expressed as follows:

Ci-gît le fameux Chamillard
De son roi le protonotaire
Qui fut un héros au billard
Un zéro dans le ministère

This can be paraphrased as

Here lies Chamillard the great
The Royal Minister of State
At billiards, a hero –
As minister, zero.

Emilie le Tonnelier de Breteuil, marquise de Châtelet, 1706–49. Talented and enthusiastic scientist, author of several books. Exercised an important influence on Voltaire, whom she entertained in her chateau.

Antoine-Louis Rouillé, comte de Jouy, 1689–1761. Held various *parlementary* and royal offices, including Commissioner for Marine and Indian Affairs 1744–54. Nominally

Women are more gentle and more domestic than men. Like men, they know how to love freedom, even though they do not share in all its advantages, and, in republics, they have often sacrificed themselves in its cause: they have shown the virtues of true citizens whenever chance or civil unrest have brought them onto a stage which male pride and tyranny have generally prevented them from mounting.

It has been said that, despite a great deal of intelligence and wisdom, as well as the rational abilities of a subtle dialectician, women have never based their conduct on what is called reason.

This is quite untrue. They may never have behaved according to the reason of men; but they do behave according to their own reason.

By the fault of the laws, their interests are not the same as ours; nor do they consider the same things important. But the fact that they base their conduct on different principles and set themselves different aims does not mean that they are irrational. It is as reasonable for a woman to concern herself with her facial charms as it was for Demosthenes to cultivate his voice and gestures.

It has been said that, despite being better than men, gentler, more sensitive and less subject to the vices of egoism and hard-heartedness, women have no real idea of justice and follow their feelings rather than their conscience. There is more truth in this observation, but it still proves nothing since this difference is caused, not by nature, but by education and society which accustom women, not to the idea of justice, but to that of decency. They have no experience of business, or of any matter which is decided by positive laws or rigorous principles of justice; the areas which concern them and where they are active are precisely those which are governed by feelings and natural decency. It is quite unfair to justify continuing to refuse women the enjoyment of their natural rights on grounds which are plausible only precisely because they do not enjoy these rights.

If we accepted such arguments against women, we would also have to deny citizenship rights to anyone who was obliged to work constantly

responsible for the French-Austrian Treaty of 1756. Described as uninspiring but virtuous.

Anne Thérèse de Marguenat de Courcelles, Madame de Lambert, 1647–1733. Author of several works, including essays on morality and education. Hostess of a famous salon frequented by Marivaux, Fénelon and Montesquieu.

Joseph-Jean-Baptiste Fleuriau d'Armenonville, died 1728. Appointed Director-General of Finance by his brother-in-law in 1702. Keeper of the Seals, 1702, dismissed in 1727. Regarded as competent but not brilliant.

and could therefore neither become enlightened nor exercise his reason. Before long, citizenship would be open only to men who had completed a course of public law. The necessary consequence of accepting these arguments is the renunciation of a free constitution. All aristocracies were formed or justified by this kind of pretext; the etymology of the word proves as much.

We cannot justify the exclusion by saying that women are dependent on their husbands, because we could destroy this tyrannical civil law at the same time. One injustice must never become a reason to commit another.

There are therefore just two obligations to discuss, and these oppose exclusion only with reasons of utility, which cannot counterbalance a true right. The opposite claim has too often served as a pretext and excuse for tyrants: it is in the name of utility that trade and industry are fettered and Africans enslaved. It was in the name of public utility that the Bastille was filled, that books were censored, that judicial proceedings were kept secret and that people were tortured. But we shall discuss these objections, so that nothing remains unanswered.

People claim that women's influence on men would be a threat.

But this influence, like any other, is far more of a threat if it acts in secret than if it acts in a public debate. Besides, any influence particular to women would lose all the more by becoming public, because any influence which extends beyond a single individual loses its effect once it is known. Women have never been given complete equality in any country, and yet they have been influential everywhere; and the more they have been maltreated by the laws, the more dangerous their influence has become. We should not therefore place much trust in this solution. On the contrary, is their influence not more likely to decline if it is less in their interests to preserve it, and if it ceases to be their only means of protecting themselves and escaping oppression?

In society, politeness prevents most men from defending their opinions against women, but this politeness has much to do with pride; they allow women an empty victory and their defeat is no humiliation because it is seen as voluntary. Do we really imagine that the same would occur in a public discussion on an important matter? Would politeness prevent us from arguing with a woman?

The second objection is that this change would contradict general utility, because it would distract women from the tasks which nature seems to have reserved for them.

I cannot see how this objection is justified. Whatever form of constitution we establish, the current degree of civilisation of the European nations means that there will never be more than a very few citizens who can deal with public affairs. Women would be no more forced to abandon their homes than labourers their ploughs or craftsmen their workshops. No woman in the richest classes is so busy with domestic affairs that we need worry about distracting her, and a serious task would distract her far less than the futile pastimes to which women are condemned by idleness and bad education.

The main cause of this objection is the idea that as soon as a man is given the rights of citizenship his immediate aim is to govern. This may be true while a constitution is being established, but it will last only a short time. So there is no need to fear that just because women could be members of the National Assembly they would immediately abandon their children, their homes and their needlework. In fact, this would only make them better able to raise their children and to make men of them. It is natural for a woman to nurse her children and for her to look after them when they are young. Forced by this to stay at home, and weaker than men, it is also natural that she lead a more secluded, more domestic life. Women therefore fall into the same category as men who need to work for several hours a day. This may be a reason not to elect them, but it cannot form the basis of a legal exclusion. Chivalry may lose out by this change, but domestic life would gain from this equality, as from all others.

Until now, all known races have had either corrupt or savage customs. The only exception I can think of is the people of the United States of America, who are spread thinly over a large area. Until now, all races have also had a legal inequality between men and women. It would not be difficult to prove that the second of these equally universal phenomena is one of the main causes of the first; for inequality necessarily causes corruption, and is its most usual, if not its only, cause.

I hope that anyone who attacks my arguments will do so without using ridicule or declamation, and, above all, that someone will show me a natural difference between men and women on which the exclusion could legitimately be based.

The equality of rights given to men by our new constitution has earned us eloquent declamations and constant ridicule. But no one has yet succeeded in presenting a single serious objection, and this is certainly not for lack of skill or enthusiasm. I dare to think that the same will be true of equality between the sexes. It is strange that in many countries women

have been considered incapable of any public function and yet worthy of the monarchy; that a woman could rule France and yet, before 1776, she could not become a dressmaker in Paris,² and, finally, that the elective assemblies of our bailiwicks gave to feudal rights that which they refused to natural rights. It is to women that several of our noble deputies owe the fact that they sit amongst the national representatives.

Instead of depriving women who own feudal property of this right, why do we not extend it to all women who own property or who are the heads of households? Why, if we consider it absurd to exercise citizenship rights by proxy, should we deprive women of this right, instead of giving them the freedom to exercise it in person?

² Arago's note: Before the suppression of guild-masterships in 1776, women could only become dressmakers – or conduct certain other professions which attracted them – if they were married, or if a man lent or sold them in his name, to enable them to acquire a privilege. See the preamble to the Edict of 1776.

On despotism. Thoughts on despotism (1789)

I

Despotism comes from the Greek word δεσπότης, meaning master. There is *despotism* whenever men have masters, that is to say, whenever they are subjected to the arbitrary will of others.

II

The despotism of one man exists only in the imagination, but the despotism of the few over the many is very common, and has two causes: the ease with which a small number of men can unite; and their wealth, which enables them to buy other forms of power.

If you look at the history of countries where you think you have found [an example of] a one-man despotism, you will always see a class of people or a number of small groups sharing power with him. In Turkey, the janissaries and the tribe of lawyers; in Rome, the praetorian guard and a dozen frontier armies; in France, a dozen *parlements*;¹ in Prussia, the army; in Russia, regiments of guards and the nobility.²

¹ It would be misleading to translate the word *parlement* as *parliament*. The *parlements* were regional courts, and by 1789 there were in fact thirteen, of which the *parlement* of Paris was the most ancient, comprising two hundred magistrates. The officials of the *parlements* were permanent; their offices were hereditary, but could also be bought.

² It is not that a conqueror, or a great general or a particular king cannot be in reality the sole master, as is often the case in a democracy where one man alone exerts authority by means of his ascendancy over the people; but in these cases it is just a matter of what is normal, and nothing to do with the personal influence of particular individuals. The

III

There are two types of despotism which we might call *de jure* and *de facto* (if the word *jure* [right]³ can be associated with the word *despotism*) but which I shall call direct despotism and indirect despotism. Direct despotism occurs in every country where the people's representatives do not enjoy the full right of veto and they do not have enough power to reform laws they find contrary to reason and justice. Indirect despotism occurs when, in spite of the requirements of the law, representation is neither equal nor real, or when people are compelled to submit to an authority with no basis in law.

Thus, in England, for example, you will find that direct despotism exists because the right of veto of the king, and the House of Lords leaves the nation with no legal means to revoke a bad law; because the people's representatives have only indirect means to make that reform, all of [those means] offending reason, the nation's dignity and public order in equal measure. But England is subjected above all to indirect despotism because the House of Commons, which should, according to the law, represent the nation, does not represent it at all in reality as it is just an aristocratic body, whose decisions are dictated by forty or fifty [people], either ministers, peers or members of parliament.

IV

These two types of despotism nearly always go together. In Turkey, people are subjected to the direct despotism of the sultan and of the corps of lawyers, whose advice he is bound to take, in accordance with custom at least and from whom he is even bound in certain circumstances to seek authorisation. Moreover, with the power to interpret civil laws, these people are the real legislators; but the despotism of janissaries is only indirect. It is not on account of a specific law, or an established tradition, that the Sultan is obliged to bow to their will. In some countries people living in the capital exercise indirect despotism; in others, the nation's leaders have surrendered their independence to the moneyed

arbitrary authority of a commander-in-chief over his army does not mean that he is a single despot. The Bey of Algiers might be able to chop off the heads of his soldiers' officers, but he is obliged to defer to the army's prejudices, pretensions and whims. [Condorcet's note.]

³ Condorcet uses the gallicised formulations, *despotisme de droit* and *despotisme de fait*.

classes; government activity depends on the ease with which loans can be obtained from these people; they compel [the government] to appoint ministers who meet with their approval, and the nation then is subjected to the despotism of bankers.

In various countries all these powers, direct or indirect, create a corps of citizens whose arbitrary will dictates to the rest of the nation; and often, surrounded by so many masters, the nation does not know whom to obey.

V

A few writers, either in good faith or because they were, or hoped to become, members of the dominant party, have bestowed the term liberty on the anarchy which arises from discord between various powers [within the state]; they have called *balance* the inertia which sets in when it comes to doing what is right and, more seriously, when it comes to doing what is wrong, to which these powers are reduced because of their mutual hostility; but [these writers] should have then added that the nation is the supporting base upon which the stresses between the two opposing powers rest.

In order to refute this absurd system, we shall confine ourselves to a single thought: is a slave with two masters, who often disagree, any less a slave? Would he be happier if he had just one master?

VI

It is easier to free a nation from direct despotism than from indirect despotism; it can see the first, but it suffers unknowingly from the second, often seeing those who exercise it as its protectors.

Moreover, the methods by which direct despotism can be prevented are much simpler. Let no law be passed, no tax imposed without the consent of the people's representatives; let no new law or any reform of old laws needed for the full enjoyment of man's natural rights be rejected, if those same representatives of the nation, or some other equally representative body, demand it. In this way direct despotism will be prevented. In England, as we have already stated, there exists no legal way of passing a new law, or of destroying an old one; that nation just has an indirect way of doing it, namely, by forcing the other two branches of the legislature

[to accept its will] by withholding its consent from other measures; and that is a great vice which every wise nation will take care to avoid in its constitution. This vice does not exist in the United States. Their legislature is divided into several bodies, but several bodies of people's representatives who, under a quite complicated, but quite efficient, procedure, have the power to change harmful laws. So, direct despotism exists in England, but not in America.

VII

Indirect despotism can be that of the legislative body itself, of the government, of certain orders of citizenry, of the clergy, of courts and lawyers, of the army, of businessmen and of the mob. We will examine ways of preventing these different forms of despotism.

VIII

Despotism of the legislative body happens when representation of the people stops being a reality or becomes too unbalanced. This danger will be prevented by monitoring the substance of the laws prescribing the way in which representatives are to be elected, by defining the territorial limits of constituencies to which the right to elect one or more representatives is given, and at the same time by ensuring that the nation has a legal way of changing those procedures and definitions within a fixed time limit long enough to prevent these changes from being too frequent, but short enough to ensure that disorder does not become too difficult to eradicate.

IX

The despotism of government can be opposed effectively whenever the convocation and duration of the assembly of the nation's representatives is made independent of [the government's] will, and whenever taxes can only be raised with the consent of that assembly. In England, where Parliament is convened only at the king's wish, people thought that they could cure this constitutional vice by establishing the custom of limiting some of the laws affecting taxation to one year. This method should not be imitated. Taxes should be regulated in accordance with the real

needs of the state, and their duration defined in accordance with what is required. But the same ends can be achieved, not by making the enactment of tax laws dependent on [the will of] each assembly, but rather the order to implement their provisions, to pay them into the relevant state coffers, to control the way they are administered. In this way, the management of state funding will have the stability it needs without having to encroach in any way on liberty.

X

Every time a particular class of citizens enjoys financial or honorific privileges, whenever it is appointed exclusively to certain positions, whenever those positions are the only path to high rank, to important government offices, it is easy to see how that class will dominate the representative body, and how equality of representation will exist only in name. This wrong will become much more apparent if that particular class of citizens is always recruited from wealthy families, or families able to avoid the exclusion to which the lower class is subjected. The only cure for this [sort of] despotism is not to allow any distinctions between citizens to persist in the civil or criminal codes, in the level of tax contributions, or in high-ranking public appointments, so that the only remaining inequalities will be those of reputation and fortune which in reality are neither less natural, nor more unjust, nor more dangerous (if the laws are reasonable) than inequalities of talent and strength. Any nation with an official genealogist can never be a free nation.

XI

The only remedy for the power of priests, which is based only on opinion, is complete freedom of worship and complete freedom of the press. In countries steeped in ignorance despotism is the despotism of priests; the nation bowed its head before them, such was their power in Europe until the end of the sixteenth century, when the eyes of the laity began to open. In enlightened countries this despotism merges with that of the mob. Nowhere in Europe, except perhaps in a few Swiss republics, is the despotism of the clergy alone to be feared, but it becomes so when allied to that of the great and powerful. This is what we see happening today

in the Low Countries,⁴ and what we have seen in France at the Assembly of Notables.⁵

In countries where religious worship is free, the division of priests into a number of sects lessens their authority; and in countries where there is a free press the mob does not get its ideas from priests alone. Moreover, the fear of being thought foolish or hypocritical stops the powerful from allying themselves with the clergy. The example of England can be raised in objection to this, but (1) in England the press is not free on religious issues, (2) freedom of worship is not established; (3) generally speaking, England is governed by [political] parties, by associations of highly respected people, and these parties take care to retain fanaticism as a tool to be used when their turn comes. Thus, hardly has one party attacked [this system] when the other hastens to protect it.

XII

The despotism of courts is one of the most odious of all because, in order to maintain and exercise it, courts use the law, the most respected weapon of all. In any country where there are permanent courts with members not elected by those under their jurisdiction, and not elected on a temporary basis, in any country where civil justice is mixed up with criminal justice, there can be no liberty, because the close alliance between a court like this and the commander of the military is enough to establish a despotism. A despotism is still more inevitable if these courts have some role [to play] in the legislature, if they form a small group, if its members are tried by other members of that same small group. The commander of the military is then obliged to co-operate with them because without them he can only exert full authority by [using] violence, always a dangerous thing to do. At the same time, it is in their interest to pander to him, and confirm him in his power because they are afraid of him and because they

⁴ Condorcet is referring to the collapse of the *Patriottentijd* (Patriot Revolution) in the autumn of 1787 following the Prussian invasion of Holland and the restoration of the Orangist monarchy in the person of William V (1766–95).

⁵ The Assembly of Notables was an advisory body consisting of princes of the blood, senior clergy, the nobility and high-ranking public officials. It was convened twice by Louis XVI, the first meeting taking place on 22 February–25 May 1787 and the second on 6 November–12 December 1788. The Assembly rejected the reformist policies of Calonne's government, a crisis precipitating the convocation of the Estates-General in May 1789 and in due course the Revolution itself.

cannot expect citizens, if they were free citizens, to consent to judicial despotism, the inevitable consequence of this sort of court, since this sort of despotism weighs on every individual at every moment, and extends to all activities and all interests.

If, because of a complicated system of laws and procedures, there are large numbers of people attached to the courts with the exclusive right to act as lawyers and public prosecutors, or if it is difficult to replace such people because they are so well versed in official procedures unfamiliar to other citizens, then the complete suspension of due process, caused by the non-compliance of both courts and lawyers, gives to judicial despotism a particularly dangerous power.

In countries where customs are mild, governmental or military despotism might not be bloody or cruel; judicial despotism is always so because it has at its disposal the full rigour of the law, and because courts are always careful to retain harsh laws even when customs have become milder.

Since the causes of this [sort of] despotism are known, remedies can be clearly perceived. If judges are elected for a finite period; if civil courts are separate from criminal courts; if judges are obliged to follow the strict letter of the law; if higher courts, also elected, are set up to penalise the prevarications of judges; if the process of defending cases before the courts is completely free; if private associations, which those charged with these functions might wish to form, instead of being encouraged are declared to be contrary to citizens' interests (for it would not be right simply to prohibit them) then we would have no further reason to fear the despotism of courts.

XIII

Modern Europeans have discovered how to protect themselves from military despotism by splitting the army up into regiments, by spreading [those regiments] around a large number of garrisons, and by not appointing permanent commanders to divisions made up of a number of regiments. So, ever since this arrangement was set up, no army has disturbed the peace, exercised despotism over the prince, over the commander-in-chief or over the citizenry. We must make an exception for Russia, where regiments of guards have too much power; and we should perhaps also make an exception for Prussia if the garrison guarding the royal family remains very powerful, and the king has no interest in wars. The only way in which European states might be exposed to the sort of

military despotism to which other parts of the old world have been subjected, and where it is [still] blocking the progress of civilisation, would be if soldiers were discouraged from [giving] passive obedience to their superiors, an obedience limited only by natural right and positive law, and if commanders, officers and, as a necessary consequence, soldiers were to have the idea that they can pass judgement on the legitimacy of the orders they are given. Passive obedience is dangerous to public liberty; but arbitrary rejection [of authority] would be even more so. To avoid both of these ills, there must be a law regulating the limits of military force used to maintain public order to ensure that laws, court judgements and government decrees are implemented. Such regulation exists in England; it is a wise measure which we must emulate, always bearing in mind that to emulate does not mean to copy blindly.

XIV

European governments have found that the impossibility of waging war over a long period using the ordinary revenues of the state or by imposing special taxes will [no longer] permit them to indulge themselves in this disturbing activity, which has become a political disease almost everywhere ever since the fifteenth century. To make up for the loss of this revenue they first of all dreamed up the sale of offices, financial agreements involving the temporary transfer of certain privileges, and finally direct loans. By these means, [governments] had capital at their disposal, and interest was paid with taxes or with privileges. The capital resource provided by loans would have been a very limited one if, to pay those loans back, they only had the capital [already] earmarked for the investment of those loans; this resource would have been very slow [to bear fruit]. But two [other] capital resources were available: the first was to borrow from finance companies, whose members then advanced the money themselves or took good care to raise it from their families, their friends and their business contacts; the second was to sell the loan to bankers or financiers, who would then sell it on or speculate with it. These two resources were purchased with either a higher rate of interest or, in the case of the first, with the abolition of a few rights, increased tolerance of a few abuses or just with the security provided by the posts for which these loans made direct reimbursement more difficult. These capital resources then came to have no more restrictions, and unfortunately people got used to seeing

them as certainties and to making the success of crucial measures, as well as the servicing of earlier interest charges, dependent on them, even when things became difficult; they became used to seeing them as means to honour contracts and to meet public expenditure requirements. But from then on [the government] became indebted to its creditors. In legislation affecting taxation or trade, in political affairs, it found itself obliged to accommodate their interests, their prejudices, their passions; and it had to include them in the class of citizens exercising real despotism over the people. Accordingly, in England [these people] have encroached upon the nation's sovereignty over India, which until then it had not been possible to take away, [and] ensured that Mr Pitt's plans, made at their dictation, were preferred to those of Mr Fox and Lord Stanhope.⁶ There are few ministers we could name whose fall from power or whose appointment to office has not been engineered by them. In France, they forced the government to deprive the author of *The Theory of Taxation*⁷ of his liberty, and his birth, his fortune and his personal reputation could not protect him from their dark hatred. They forced the 1770 administration of Abbé Terray into bankruptcy,⁸ a man who only saw this solution as a means of ridding himself of their tyranny, who set up many bad financial schemes in order to escape from their clutches, and who ended up by surrendering to them. The 1788 financial crisis was caused by such people.

There are only two ways to destroy a despotism of this nature which threatens to grow more dangerous and intolerable by the day. The first is by means of legislation which, by proscribing all forms of vicious taxation and by granting complete freedom of trade, would dry up the source of great financial and banking wealth, diminishing the profits of the latter and distributing them more widely. The second is to change, with the consent of the nation, the form in which loans are made by making the

⁶ Condorcet is referring here to the defeat of Fox's East India Bill in the House of Lords, and the appointment of the younger Pitt as Prime Minister on 18 December 1783.

⁷ The author of the *Théorie de l'impôt* (Paris 1761) was Victor de Riquetti, marquis de Mirabeau (1715–89), not to be confused with his son, the more famous Honoré-Gabriel de Riquetti, comte de Mirabeau. The elder Mirabeau's radical views on taxation and the basis for its legitimacy in the consent of the people, together with his attack on the tax-farmers, resulted in his incarceration on 16 December 1760 in Vincennes prison, and subsequent banishment to his estates. He was freed after eight days following the intercession of Mme de Pompadour.

⁸ Joesph-Marie Terray (1715–78) was Controller-General of Finance from 1769 to 1774 and governed France as part of a triumvirate of ministers with René-Nicolas de Maupeou and the duc d'Aiguillon.

assembly which represents it, or each provincial assembly, responsible for raising the loan, the interest on which they would then repay with funds which they themselves would handle and which they would ensure went where they should. The [assemblies] would be responsible for obtaining the loans; and the only reason assemblies would be attracted to a particular loan would be because they had a deep and lasting confidence in it, and in the advantages offered by its form, instead of going for expensive loans in which people could not have full confidence. They would be responsible for attaching to each loan a clear statement of the true level of interest, and proof that sufficient funds were assigned to finance the interest, for always restricting themselves to loans with a rate of interest lower than that of previous loans from which the capital raised will be used for repayment [of current loans]. [Assemblies] will be responsible for carefully avoiding all financial schemes, all institutions dealing in the movement of shares and, following on from that, all associations of businessmen. Finally, they would be responsible for dissipating the clouds of darkness surrounding a minor art that is not very complicated, and which only becomes more important and more dangerous the less we know about it.

XV

Despotism of the mob is to be feared in any country with a big capital city and big commercial centres. But, leaving aside the direct effects of the mob's strength, this despotism is more like the agent of some other power than a despotism in its own right, when it enforces taxation on subsistence food and compliance with the prejudices [of that other power] regarding the laws on the food trade. The power of the mob only exists because of the advantage some of the other despotic powers oppressing the nation, or the various parties associated with them, hope to gain. In other contexts, the mob uses its own despotic power only to support religious prejudice; to maintain the authority of certain groups which it has taken under its wing, or whose existence enriches a particular town; to defend certain popular views which are useful to certain classes of citizens and harmful to the rest; and, finally, to show its ill-temper with regard to powerful men who have been made to look odious in their eyes.⁹ However dangerous

⁹ Condorcet no doubt had in mind the fate of Terray's successor, Anne-Robert-Jacques Turgot (1727–81). Turgot, whom Condorcet idolised, lost power as Controller-General in 1776.

this despotism might be, nowhere do you see any of the other powers taking joint action against it. It is a resource which the weaker wish to nurture. In England, the House of Commons prefers to leave intact a pile of laws that are ridiculous and unjust, but which would be protected by the mob, rather than find ways of destroying this source of corrupt influence over the law. It was the mob which deprived Holland of its freedom by reinstating the *stadtholder* in 1777.¹⁰ Instead of blocking aristocratic tyranny, the mob introduced Denmark to the despotism of princes, that is to say, the despotism of courtiers, of priests, of lawyers; it was mob rule in Constantinople which destroyed the Greek empire, as much as the swords of barbarians and the quarrels of theologians. We know that the absurdity of the schemes of this type of despotism is matched only by the barbarity of its methods, since it is imposed by the most ignorant and corrupt part of any nation, second only to the ambitious people who try to exploit it. But what is it that makes the mob of a great city dangerous? The ease with which the mob can assemble, its ignorance and its ferocity. So, by attacking these three causes, we can forestall its effects.

There are only two ways to reduce the chances of bringing the mob out on to the streets. The first is absolute freedom of trade and industry. In the first place, this would increase the size of the population, while decreasing the size of the mob, weaken worker solidarity, particularly among those corporations holding special privileges in certain places, and, lastly, it would lessen the dislike that the poor, plagued by the laws imposed by those set above them, have for the police. The second way would be to divide every large town into districts, in which people could assemble in an orderly way, and to make these sub-divisions quite small. Small assemblies of citizens, gathering without distinction of rank or profession, are generally the only just and sure way to prevent spontaneous gatherings which disturb the public peace.

To lower the level of ignorance, the press must be free and well-organised facilities for public education must be allowed to flourish. The people lack these facilities in almost every country where [educational] institutions, under the control of the clergy, do no more than impress on the minds of the people ideas appropriate to the maintenance of priestly power. Freedom of the press is another way of lowering levels of ignorance and prejudice among the people, not by educating them directly, but rather by spreading enlightenment to the class nearest to them, and,

¹⁰ See n. 4. The year 1777, given in the original text, has been retained.

above all, by stopping those with an interest in deceiving the nation from feeding their prejudices to the people. Whenever the people rise up, it is rare that it is not against their true interests; you could cite both ancient and recent examples of that. As for ferocity, it is born of ignorance, of poverty, of the harshness of criminal codes and of the insolence of the privileged classes; only when we understand that will we see how this ferocity can be destroyed.

XVI

These simple observations are enough to show how far from understanding the true extent of this scourge are those who think that by destroying government with its arbitrary procedures they would really be destroying despotism. By always talking about how to restrain this form of despotism they forget that it is itself a restraint on other forms, and that logically speaking they should want to preserve it.

XVII

Despotism should not be confused with tyranny. We have to understand that by this term is meant any violation of man's rights, perpetrated legally under the authority of the public power. It can exist independently of despotism. Despotism is the use or abuse of an illegal power, of a power which does not emanate from the nation or from the nation's representatives. Tyranny is the violation of a natural right committed by a power which can be legal or illegal.

Let us imagine in the fourteenth, fifteenth, sixteenth or even the seventeenth century, a well-ordered republic in which the people's representatives could oppose the enactment of new laws and force through the reform of old ones; let us imagine that none of the powers established by these laws could either contravene them or put pressure on the people's representatives in ways that would compromise their liberty. This would not have made the enactment of laws penalising heretics less likely. What is called sacrilege or blasphemy would [still] have come top of the list of capital crimes. In those centuries, and even in this one, trade and industry would [still] be hampered by prohibitive laws. Indirect taxes would [still] be levied, and crimes invented requiring tyrannical laws to deter people from committing them. There would be no despotism, [but] tyranny would be at its height.

XVIII

The only way of preventing tyranny, that is to say, the violation of men's rights, is to bring all of these rights together in a declaration, to promulgate them widely, clearly and in detail, to publish this declaration with great solemnity, and to embody in it [the principle] that the legislative power, in whatever form it takes, will never be able to pass a decree contradicting any of the articles [in the declaration].

At the same time, a legal mechanism needs to be established allowing new articles to be added to this declaration, because the more enlightenment progresses, the more men will understand the extent of their rights, and the more able they will be to perceive their obvious implications. Now, the more widely a declaration of rights is disseminated, the more certain will be the enjoyment of the rights it contains; the chances of reducing the number of laws and legal complexities will be all the greater, as will the chances of seeing an end to those arbitrary provisions which disfigure the law in every nation. In addition, another legal mechanism needs to be established allowing articles in this declaration to be struck out, because error, even when it favours men's rights, can be harmful. The mechanism for adding an article must be such that it ensures that the article will in fact be added, however unlikely it might be that this right [ever] becomes a reality; but to strike an article out, the mechanism must be such that a vote on its suppression must be based on the adducing of evidence and proof of necessity. Without such precautions, whatever form the constitution takes, citizens will not be shielded from tyranny. A tyranny might be established legally, but it will still be a tyranny, in the same way that an unjust sentence is no less unjust for having been passed in accordance with the legal formalities.

XIX

The natural rights of man are: (1) personal security and liberty; (2) security of, and freedom to own, property; (3) equality.

Only the last of these rights needs any explanation. The equality which is needed for [this] natural right to exist between men excludes any inequality which is not the necessary consequence of man's nature and of things, and which, in consequence, would be the arbitrary effect of social institutions. So, for example, inequality of wealth is not

contrary to [this] natural right; this sort of inequality is the necessary consequence of the right to [own] property, because that right embodies the free use of property, embodying consequently the freedom to accumulate property indefinitely. But it would become contrary to [this] natural right if it came about as the result of a positive law, such as the law which grants the larger share of a legacy to the eldest child, or the one providing for entails,¹¹ etc. Thus, the authority a man responsible for a particular government function has over his subordinates, arising from the nature of his function, is not contrary to [this] natural right because it is derived from the need for certain men to exercise that authority, and for others to obey them. But this superiority does become contrary to [this] natural right if it is made hereditary, if it extends beyond what is necessary to perform the function efficiently. The right of equality is not damaged if only property-owners have the franchise, because they alone own the land, because people live on it only with their consent; but it is damaged if the franchise is divided unequally between different classes of property-owners, because such a distinction does not derive from the nature of things.

XX

In general terms, the natural rights of man are familiar to anybody with an honest mind and a noble soul, but few people understand their full extent; few can open their eyes wide enough to see the full implications of these rights.

A comprehensive declaration of rights would be a useful instrument for the human race to have, but perhaps, even among those nations which hate tyranny most you would not find a single one which you could persuade to adopt [that declaration] in its entirety, habit having accustomed man so much to his chains.

XXI

The first declaration of rights really worthy of the name is the Virginia declaration, signed on 1 June 1776, and the author of that declaration

¹¹ This legal term relates to a predetermined line of hereditary succession in the context of estates, titles or public offices.

deserves the eternal gratitude of the human race. Six other states in America have followed Virginia's example.¹²

But none of these declarations of rights can be seen as being complete.

1. None incorporates statutory limitations on sovereign authority with regard to the punishment of crimes. Now it is obvious that the legislature has no right to criminalise actions which are not a direct, immediate and serious breach of the rights of either an individual or of society.
2. None incorporates statutory limitations on the legislature with regard either to civil law or to the laws relating to public order.
3. Only one declares all [forms of] poll tax and all taxes *on the poor*¹³ (an expression indicating deep knowledge of this subject) to be contrary to natural law, but none excludes indirect taxes which, by their very nature, are unevenly distributed and cannot exist without infringing in a quite direct way those freedoms relating to the individual and to his property, and without arbitrarily inventing new crimes.
4. If a few [declarations] do proscribe all exclusive privileges, none places the freedom which all men must enjoy to use their strength and property in any way they wish, provided that this does not harm the rights of other men, in the category of sacred, natural rights. This freedom pre-supposes an unlimited freedom of trade and commerce.
5. A few [declarations] permit taxes to be levied to pay for the cost of religion. This applies, admittedly, to a specific religion in accordance with the wishes of the tax-payer; but every tax of this nature is contrary to men's rights; they must have as much right not to pay for any religion as they have not to follow any religion.
6. Generally the right to be convicted only by a unanimous jury has been included. Now it has not been proved: (1) that this unanimity, required in accordance with English practice, offers a greater probability of [reaching] a true verdict than a straight majority of eight or ten; (2) it is not proven either that juries are more deserving [of] our confidence as judges in the facts of a case than those elected by citizens

¹² Thomas Jefferson's Virginia Declaration of Religious Freedom was circulated as a bill in 1779, but not passed by the Virginia legislature until 1786. By 6 February 1788 the Declaration had been ratified by Delaware, Pennsylvania, New Jersey, Georgia, Connecticut and Massachusetts.

¹³ Condorcet's italics.

from the ranks of people with the greatest reputation for honesty and enlightenment, and chosen specifically to carry out their responsibilities for a period that is more or less long.

The choice between these various methods is not a question of rights, but of reason. The legislature must have the authority to set up procedures that are in its view the most appropriate for the protection of personal security, and anything that might be contrary to that must be excluded from all declarations of rights. A choice between various options giving equal support to all of these rights must not be given.

So, for example, the appointment of judges and juries other than by election by those subject to the court's jurisdiction, the establishment of any permanent tribunal by its own members, by a particular group of citizens, by a senior magistrate, etc., must be proscribed in a declaration of rights.

7. In some of these declarations exemption from military service is allowed for those who, for reasons of conscience, do not believe that they should bear arms. This is a question of privilege granted to people holding certain beliefs, and is in consequence a violation of general rights. The principle of respect for individual consciences in areas which are really a matter for the law just encourages fanaticism. It would not be right to conscript a man whose family needs his support, and exempt from conscription a Quaker or a member of some other sect. However, a general exemption from all compulsory military service should be part of a declaration of rights. Military service should be voluntary, and the punishment for a refusal to serve would be the shame associated everywhere with cowardice. Public opinion alone would then decide the legitimacy, or otherwise, of the refusal.

XXII

The best way of achieving a comprehensive declaration of rights would be to encourage enlightened men to produce separate models. By comparing these different drafts, not only would one be assessing in a fairly methodical way the order in which those rights should be listed, and the relative clarity with which each one was drafted, but one would also learn what different citizens regarded as being part of men's rights. This would be the surest way to know them all, not completely perhaps, but as far as the present state of enlightenment will allow us to know them.

Each author would be constrained to elucidate these rights simply and concisely, just as they are in the Virginia Declaration. But, with regard to rights which might be seen as being a little dubious, a more detailed discussion of these would be permitted in separate notes.

The difficulty in identifying all of man's rights, and in elucidating them clearly and methodically, is not the only problem involved in a work of this nature. It must be done in a way that is not too lengthy or too detailed, so that each right would be explained in terms that make any serious violation of that right clear, open to simple demonstration and understandable to all.

Care should also be taken to highlight what constitutes the essence of each article, what defines the right and the reasons for treating it as being part of the natural rights of man. Finally, this process of clarification should be such that, after comparing different versions and having made a complete list of what is thought to constitute these rights, a great assembly would be able to decide, on a yes or no basis, what should be included in a declaration and what it deemed to be fanciful or overrated.

It would be desirable for these drafts to be made public by being published. There would be two advantages to that: the drafts would be submitted thereby to public criticism, enabling us to benefit from any [further] light that might be shed on them; and it could then be said that none of the rights that an individual citizen might wish to claim had been neglected, as it would then be in accordance with [the public] will alone, given this publicity, that a particular right, which he believed to be genuine, had not been considered.

The more extensive and the more comprehensive a declaration of rights is, the greater will be its clarity and precision, and the nation, which has recognised it and approved it in principle on the basis of conviction, will be all the more reassured that it is protected from tyranny, for any tyranny openly attacking one of those rights would be confronted by general opposition.

XXIII

Another advantage of a declaration of rights is the assurance of public order. A nation armed with this shield ceases to find all innovations troubling; has no longer any pretext to be offended by those that are useful; will not allow itself to be deceived so easily by the defenders of abuses it is desirable to destroy; and will no longer be tricked into accepting

as rights those privileges which are actually contrary to those rights or those institutions which are opposed to its interests. Have we not seen the people of the Low Countries rise up to protect a few seminaries and convents? And have we not seen some countries accept as part of their electoral system the preservation of a tyrannical aristocracy, and others a court system which is incompatible with the enjoyment of their genuine rights? A declaration of rights is thus a safeguard both for public order and for public freedom.

On freedom.
On the meaning of the words ‘freedom’, ‘free’,
‘a free man’, ‘a free people’ (1793–94)

Freedom for an individual is to have the will to act in accordance with what his intelligence leads him to recognise as being most useful to him. On seeing, or remembering, an object man feels a desire, that is to say, a sentiment associated with the memory of a pleasure given to him by that object, and he wants to savour that pleasure again and act in ways that can recapture that pleasure for him. These acts of will, when you analyse them, are nothing more than the feelings associated with remembering that those actions have [always] recaptured the remembered pleasure, and that any other feelings we remember, if we remember them clearly enough, had a similarly successful outcome. So far I see a being whom we can call active, but for whom freedom does not yet exist. But if, on seeing that same object, if by remembering less intensely the feelings from which an action is willed, he can stop wanting to take the action needed to attain the desired objective, if therefore he can stop wishing to attain that objective, then he is free. But he only has this ability because he is somehow motivated not to exert his will; either because of another desire or a sentiment of fear. Every being is free who is able to have two contradictory sentiments relating to the same action, and who can decide either to wish, or not wish, to take that action in complete awareness that his will is conforming to one of the two sentiments. He is free when experiencing the two sentiments and is conscious of doing so. The more the two sentiments are in play when he acts, and the more sharply aware of them he is, the more his freedom is complete. Freedom ceases when there is just one

desire to which the will succumbs automatically. Freedom is more keenly felt than that, and has more intensity than a single desire. However, the will can be suspended precisely through fear of succumbing to that single impulse, of not being able to reflect on contradictory impulses. Assuming a man possesses this faculty in some degree, his will to action will be almost negated if one of those two sentiments is a lot stronger than the other. That faculty becomes more perceptible to him as they become more equal. When they are well balanced, and it is a question of choosing the one leading to action, the choice is made without even being aware of the new motive that determines that choice. If we take the practical example of the freedom of indifference to choice in the case of a hungry man who has to choose between two similar, equally available, dishes, any disparity (even a perceived one) or automatic reaction would disturb that sense of indifference to choice. Or if he is unable to make a choice, he would just resort to drawing lots. To speak abstractly of indifference is absurd, because if you assume there is no determining motivation, you are assuming that the action is not determined.

Man himself necessarily determines his actions in accordance with the strongest motivation. But because, on reflecting on the nature of freedom, on examining whether you can wish or not wish [to take action], then exactly the same thing happens when you examine what motivates belief in anything. The feeling that you necessarily act in accordance with what seems to be most useful to you fades the more you weigh up the pros and cons. As your will fades so does your sense of belief, when, for the feelings based on observation of the constancy of a phenomenon, you substitute the calculation of the probability of it occurring. But just when you are examining what motivates you to believe you see the general sentiments behind the motivation fade, and for that reason alone you have to accept the possibility of making an error, of not knowing the degree of probability involved in things in which you believe most strongly. Similarly, when reflecting upon freedom, you have to presume that things are in the balance, and that you are able to determine your actions in a way that goes against what appears to be the stronger motivation. You think in theory that you can resist without being aware that what motivates your resistance is what then determines what you want, all of which makes the feeling of this necessity disappear along with the belief.

Another source of error arises when motivations for action are almost equally balanced. [*Missing text.*]

When we examine a proposition and first reject it, accept it, then reject it again only to accept it again, what inclines us to adhere to one side of the proposition or another is strongly felt in terms of motivation, but the sentiment associated with that motivation has faded away. Similarly, if we only take a decision to act after having hesitated between two contrary decisions, the sentiment which impels us to take action loses its strength. The memory of having been able to make a different judgement, or take a different decision, fades in either case. In the latter [case] the weakness of that sentiment makes us think we might have decided against taking the action we did take. [*Missing text.*]

These comments will suffice to resolve any metaphysical difficulties with which the subtleties of academics and the dreams of theologians have complicated the meaning of the freedom we all instinctively feel, and have made it impossible for us to understand without being confronted with serious contradictions. These [difficulties] only exist with that absurd form of freedom that has been wished upon us, and which is not natural freedom.

We see that natural freedom is not an absolute faculty but a relative one; that it applies in certain actions, but not others; that it strengthens with the growth of reason, of enlightenment, of fineness of moral sentiment; that it belongs to animals as well as to ourselves; and that it has developed to some degree in every species in accordance with the level of intelligence and sensibility bestowed by nature, and as a consequence of the mutual influence of one species on another.

I call the freedom I have just analysed natural freedom because it is derived from those faculties which constitute the nature of man, faculties which all individuals have to a fairly advanced degree.

If an insurmountable obstacle stops me from taking the action which my will has determined to be the most advantageous to me, then I cannot determine to take that action. Strictly speaking, you can then say that I am free because I am deciding not to want to take an action, since it is in my interest not to try to do what I sense to be futile. But you can also say that at a less abstract level I am not free as I no longer have the power to determine my course of action in the most advantageous way when a foreign obstacle blocks it, and when that obstacle is insurmountable I am not even aware of having examined the pros and cons of any action.

So these obstacles were seen to pre-empt action even when they could have been overcome, but only when they presented serious dangers, pains

outweighing anticipated pleasures, and were seen not as motivations to be taken into account, but as obstacles to the exercise of freedom of choice *per se*.

If we now consider man in society, if we observe that in order to enjoy the advantages associated with that condition, man must necessarily consent to submit some of his actions to common rules, either to constraint by a higher authority whenever he wants to break those rules or, if need be, by the threat of punishment to deter him, we might ask what conditions are necessary to preserve man's natural freedom.

I find

1. That this act of consent must be free, that is to say, a man must freely determine to be part of society in the light of conditions necessary for the protection of society, as well as of his personal well-being.
2. That he should contemplate accepting these common rules, and associated motivations to action, only when these rules are demonstrably necessary, and only impose on him a constraint to which he determines to submit for his own interest.
3. These common rules cannot possibly accord with the view of every individual. They must therefore be determined by the view of the majority. The preservation of freedom requires each individual to make an equal contribution to the expression of that majority view.

The following distinction must be made: restrictions imposed by the majority must not go so far as to create conditions which the minority might find oppressive, contrary to its rights and incompatible with justice. If restrictions did impose constraints on the minority contrary to its rights, if they made it illegal to act in ways that did no harm to other individuals or presented no threat to the social order, they would be placing a restriction on natural freedom without the minority's consent; and implementing the will of the majority by means of a foreign, arbitrary power.

Freedom in the choice of association, in the decision to remain as a united body and to engage with the social order, is an expression of natural freedom.

The ability to act in ways not always subject to the will of an outside force, to do all those things that your instinct as a free individual tells you should not be subject to [common] rules, is what makes an individual free in the civil order. I call that *social freedom*.

The ability to contribute on a completely equal basis to the establishment of common rules, which place an obligation on all in accordance

with the will of the greatest number, constitutes *political freedom*. This is not an add-on to the freedom of the individual, but rather a branch of that freedom which has to be considered separately. Whoever is subject to the will of the majority without having contributed to the expression of that will would be subject in effect to an outside force: in an absolute sense if he had not made any contribution at all, and in a relative sense if he had contributed on an unequal basis because then that part of the contribution to the will of the majority from which he is excluded, that extra advantage granted to the rest, would be equivalent to that of an outside force.

Thus, social freedom means the retention of natural freedom in the civil order. Political freedom means the retention of social freedom in the creation of laws which necessarily subject some of our actions to the will of the majority.

It is everybody's right to be able to enjoy natural freedom in accordance with the law.

I will call *personal freedom* social freedom considered separately from political freedom, that is to say, freedom constrained only by common rules which would not infringe social freedom provided that political freedom is retained. In those circumstances you would not worry whether it has been retained or not, the issue would be irrelevant.

Similarly, with the term *political freedom*, social freedom is considered separately from personal freedom. You do not [then] wonder whether political freedom exists or not, the question is irrelevant.

The combination of personal freedom and political freedom constitutes social freedom. You can have personal freedom without political freedom, and vice versa, but then social freedom would not exist.

I will apply the same conditions to the word *rights*, and so I will call *natural rights* those rights derived from man's nature, *social rights* those same rights retained in the social order, *personal rights* social rights considered separately from political rights, and *political rights* those natural rights retained and subsumed in common rules established by majority will.

A free man is the one who enjoys social freedom, a free people one in which all its members, having attained the age of reason, enjoy that freedom.

But (1) a man can be called *free* when he is subject in none of his actions to the arbitrary will of [another] individual; thus, *free* means the opposite of *slave or serf* as we understand the nature of that form of servitude, and

consequently the opposite of a man subject to the arbitrary will of a despot, of a senate or of any other association of individuals.

Again, (2) you can still call a man *free* who is not subject to that sort of arbitrary will, but subject to laws officially established by an outside force constrained only by a small number of conditions on which there is general agreement. It is in this sense that you could say that the *Turks are slaves*, the *Spanish are free*. (3) Those who are then called *free* are those who are subject to the will of a number of other individuals, as opposed to those who are subject to the will of a single individual. (4) You call those without political freedom *free* if they appear to enjoy personal freedom; and (5), even more commonly, if they appear to enjoy political freedom, but are deprived of much of their personal freedom; (6) finally, if they enjoy in some measure the reality or the appearance of these two forms of freedom.

That is not all: the second, fifth and sixth of the above classifications apply equally to a whole people.

Thus, a free people often turns out to be those living in a country with a large number of slaves; where a large proportion of the rest are subject to despotic rule; where the majority of those not subject to despotic rule are deprived of political freedom, enjoying only an imperfect form of personal freedom; and where, lastly, the small number remaining exert great authority, and where restrictions on personal or political freedom must make social freedom a remote possibility.

It is said that women are free when they are not confined, but nowhere do they enjoy social freedom, and France is the only country where the law has not violated their personal freedom by establishing a difference in civil rights between women and men. In the French language a *free man* can only be someone who enjoys social freedom, an advantage belonging so far only to the French, and to the inhabitants of a few Swiss cantons because a degree of inequality, admittedly very slight, prevents us from including the Anglo-Americans. The Anglo-Americans are almost free, and nothing more than that. Those I call *semi-free* are those who enjoy imperfect political and personal freedom, like the English. Finally, I call a person *subject* who, with no political freedom, enjoys only as much personal freedom as a despot is prepared to allow him. That subject has no political rights at all, he can only have some governmental promises, but as those promises are not guaranteed, and as I know of no government anywhere that does not make such promises, there is no need to have a separate term to distinguish between the subjects of the king of Spain and those of the emperor of Morocco.

These distinctions work in the case of specific individuals. Venetian nobles are *semi-free*, commoners in the city and state of Venice are *subjects*. The citizens of Berne are semi-free, the commoners in the Canton are their subjects. Commoners living in the Vaud are the subjects of the Canton.

I see I am extending the concept of the term *semi-free* to those who, possessing the same personal freedom as those with political freedom, can share in that political freedom by having conditions determined by the law, and independently of the will of others. So I call even an Englishman who is neither a burgher nor a freeholder *semi-free*.

But if I apply these terms to a whole people I would say *the French people are free, the English people are semi-free, the Spanish people are subjects*. In referring to Venice or to Berne, if I use the word *semi-free*, it becomes equivocal because it signifies a free people ruling over a subject people, or a people composed entirely of semi-free men or a people in which you find semi-free men and subjects. So I will keep the term *semi-free* for countries in which all individuals are semi-free, and I will call *a people subject to a free or semi-free ruling caste* all those in which free or semi-free citizens make up a clear majority and all are living in the same country. In fact, the existence of subjects of one country living in a different country is not relevant to the internal situation of subjects living in the country under consideration when they are described as being a *free people* or *semi-free people* with subjects. Thus, the Romans were a semi-free people with subjects, though their subjects were much more numerous because in territory that was truly Roman citizens constituted the majority. But I would say that *the Bernese are a subject people of semi-free citizens* because only a minority of the inhabitants of the canton of Berne have political rights there. Domestic slaves are not relevant to these classifications, as they do not in themselves constitute a people. It is a different matter in the case of feudal serfs. So I will use the word *serf* in the same way I have used the word *subject*, and a *serf-people* in the same way as a *subject-people*.

The words *slave* and *serf* mean in the case of the former domestic servitude, subjugation to the rule of masters, and in the case of the latter feudal subjugation to a landowner as far as produce and the cultivation of the land is concerned. But the word *free* cannot refer unequivocally to someone who is not subject to either of these two forms of servitude. *Independent* must then be used in a special sense: the less the laws and common rules affect an individual's actions, the more independence he

enjoys. The word *franc* suggests that the subjugation from which someone has been freed is a condition common to all individuals, towns and ports to which the word is applied. Moreover, the double meaning of the words *free, freedom*¹ would not give rise to seriously misleading ambiguities obscuring its meaning, but to superficial ambiguities giving rise to jokes and diversions concealing serious issues beneath a varnish of ridicule. [Missing text.] While injustice depriving women of political freedom endures, you can call a woman who is neither a slave nor a free person *free* and keep the words *dependent, independent, semi-independent* to indicate the degree of subjugation to their husbands and fathers, and the degree of inequality between women and men, as established by law.

These classifications cannot be absolutely rigid, so we must be allowed to call a people free where social freedom is almost completely achieved, as in the United States of America. Similarly, it would seem that a few countries can be classed as subject peoples or semi-free peoples, because the conditions which a prince must fulfil with respect to a country's inhabitants can be such that those inhabitants, depending on your viewpoint, can be regarded either as true subjects or as semi-free subjects. The explicit right to depose the prince, to change the government and to establish a mechanism to exercise that right would settle the question in favour of freedom because, as that right is inalienable, and as any people can exercise it legally through insurrection, distinctions regarding men's political condition do not revolve around the issue of whether or not that right exists, but rather of the way it is put into effect. But nowhere is this mechanism established nor, indeed, widely recognised. Some servile individuals contest that right even in countries where the form of administration might tend towards a kind of semi-freedom. Thus, a country can be called *semi-free* if its laws were administered in the way the friends of freedom in that country interpret them. That same country can be called *subject* if its laws were administered in the way that the prince's supporters interpreted them. It is absolutely impossible to avoid some arbitrariness in the application of these terms. Again, I must note that we have determined their meaning according to our ideas, our current state of enlightenment and, consequently, in accordance with an extensive, and already very precise, understanding of the rights of man, and also on the

¹ Condorcet uses here the words *franc, franchise*, connoting not only 'free, freedom', but also 'frank, frankness', 'Frank, Frankishness', as well as 'free' in the economic sense of 'tax-free' (*en franchise*).

assumption that those rights are more or less guaranteed or protected by legitimate institutions. Now, for a long time legitimate institutions and, for an even longer time, any knowledge of rights were unknown in human societies. People had a vague sense of these rights, but they were only sustained either by a vague, inchoate sense [of their existence], by customs respected for superstitious reasons or by institutions whose indirect effect was felt rather than understood in any rational way. The forces opposing freedom owed their [*text missing*] to the same institutions and customs which those forces had skilfully used to facilitate their development. So you will find almost everywhere a clear difference between legal freedom, that is to say, freedom arising from the law, and real freedom. A people might appear to be a subject people if you look only at its laws and form of government, but come nearer to freedom than one which, at first glance, you think has a free constitution. It is possible to prove, for example, that a Scythian, subject in theory to an hereditary king, was freer in real terms than a Lacedaemonian. Until you get to the recorded history of the Greek republics, and that of other peoples observed at various stages of their civilisation, you can only get an idea of a people's political condition by combining what you do know about their institutions with what you know about the influence of their customs. I would even say that this is essential to an accurate assessment of the influence of their institutions. So we will often have to make these distinctions, and in so doing we will find the classifications we have examined, whose meanings are separate from those used to classify governments and institutions, will become useful.

Other terms, which we will examine later,² will help to define these diverse forms of government so that, with the use of words to describe our true political condition and the condition to which legitimate institutions alone give rise, we will be more sure of avoiding any confusion.

² That is, in a later note. This can be found in Condorcet 2004: 783–95 (see References to the Editors' introduction).

On revolution.
On the meaning of the word
'revolutionary' (1793)

From the word *revolution* we have formed the word *revolutionary*; and this word denotes, in general terms, everything to do with a *revolution*.

But the word has been made specifically for our revolution; for a revolution which, having occurred in one of those countries which has suffered longer than others under despotic rule, has created within a few years the only republic where freedom has ever been based on the complete equality of rights. Thus, the word *revolutionary* applies only to those revolutions whose purpose is freedom.

You can say that a man is a *revolutionary*, that is to say, that he is committed to the principles of the revolution, that he acts for it, that he is prepared to sacrifice his life to support it.

A *revolutionary* spirit is a spirit capable of initiating and directing a revolution declared in the name of freedom.

A *revolutionary* law is a law intended to sustain the revolution and accelerate or manage its progress.

A *revolutionary* measure is a measure which can ensure the success of the revolution.

So what this all means is that these laws, these measures, are not among those suited to a peaceful society; their characteristic feature is that they are only appropriate in times of revolution, but useless and unjust in other times.

For example, in France a law could be called *revolutionary* when it would make family names illegal so that everyone would have a personal

name to which, in official documents, he would add the name of his father to avoid any administrative confusion. In fact, in any enlightened country, where the principles of natural equality have been entrenched by long-established custom and practice, it would be foolish to fear the perpetuation of family names, and it would then be a little unjust to forbid it.

But in France, where prejudices of inequality tend to be curbed rather than destroyed, where the hatred they inspire is too violent for them simply to continue to be treated with well-deserved contempt, this law could be useful: it would remove all hope of reviving either the nobility or any distinctions derived from birth.

In Rome, where inequality was sanctioned by the constitution and by almost every social institution, the perpetuity of family names was systemised. You would bear the name of the twig, of the branch and sometimes of a minor branch. But in countries where people had equal freedoms, in countries groaning under equality of servitude, in the Republic of Athens, in Persia, family names were unknown. From the earliest times it was the custom in Greece to add the father's name. Thus, it is that in Homer a distinction is made between the two Ajaxes; and we see no need for any other form of distinction.

You would be wrong, on the other hand, to call a law *revolutionary* which allowed children born outside marriage to share equally in the assets of the parents who have taken them in. It is not that this law might not have been very useful to the revolution, but this same law is an imperative requirement of the first principles of natural justice, and should not be distinguished from those other just and wise laws appropriate to all countries and to all times.

The word *revolutionary* has been misused too often. Generally people say, for example: *A revolutionary law must be passed, revolutionary measures must be taken.* Do they mean laws or measures which are useful to the revolution? They have not said anything. Do they mean measures appropriate only to these particular times? They have said something wrong; for if a measure was equally good in times of peace and of revolution it would just be a better measure.

Do they mean an extraordinary, violent measure which is contrary to normal rules of governance and general principles of justice? That is not a sufficient reason to adopt it; further proof is needed that it is useful and that circumstances require and justify it.

It might be good to go back to the origin of this misuse of the word *revolutionary*.

When it was a question of building freedom on the ruins of despotism, of equality on the ruins of the aristocracy, it was wise not to try and rediscover our rights in the capitulary laws of Charlemagne or in Ripuarian legislation; we based them on the eternal laws of reason and nature.

But opposition from the defenders of royalty and abuse soon required the adoption of harsh measures necessitated by circumstances; now, the counter-revolutionaries thought they could embarrass their enemies by citing those same principles of natural justice with which they had themselves been so often assailed; endless invocations of the Declaration of Rights could be heard from those who had found it to be absurd and dangerous when first proposed.

As the response could only be made with delicately argued logic, and not always in the confident expectation of success, people thought up the term *circumstantial law* which, becoming rapidly absurd, was replaced with the term *revolutionary law*. The ancient laws of nearly every nation are nothing more than offences against justice by the powerful and violations of the rights of all for the interests of the few; the policy of all governments testifies only to a series of perfidious and violent acts. Consequently, philosophers simply fought this system of injustice and oppression nearly always by defining the principles of universal morality. They applied these principles in a general, metaphysical sense. The less they concentrated on the exceptions to those principles, the more they saw their oppressors think any abuse, any crime could always be justified by being presented as exceptions necessitated by an overriding need.

So, faced with the problem of identifying what was legitimised by circumstances, the easiest thing was to derive some vague excuse from those circumstances, and to embrace warmly as a necessity something which we were not too sure how to justify.

Today it is time perhaps to replace this convenient, but dangerous, procedure with some more clearly defined rules.

When a country recovers its freedom, when the direction of this revolution is decided, but the revolution has not yet run its full course, inevitably there will be many people who will seek to reverse it, to have a *counter-revolution*, and who, as part of the general body of citizens, would become dangerous if they were allowed to act together and unite around them all who shared their views, but who were held back by fear and inertia. So that is a danger against which we are right to defend ourselves. Thus, every action, even neutral ones, which make this danger worse can

become the subject of a repressive law, and any action likely to prevent such a danger can be lawfully required of citizens.

The purpose of the social pact is the equal and unqualified enjoyment of rights which belong to humanity; the pact is founded on mutual assurance of those rights. But that assurance ceases to apply to those individuals wishing to dissolve the pact. So, as there will always be such people in any society, we have the right to take steps to identify them, and when we know who they are our treatment of them is constrained only by limitations to the exercise of our natural right to defend ourselves. Similarly, if a more important right is threatened, if we need to sacrifice another, less important, right in order to preserve it, the need for this sacrifice does not violate the latter, because that right then ceases to exist, since it would amount to nothing more than the right, on the part of those claiming it, to violate the more important right affecting others.

In the 1666 Great Fire of London the fire could not be not stopped from spreading because the law forbade the demolition of houses. The furniture and belongings of people who were not at home were allowed to go on burning because the law forbade the breaking down of doors. Let us not follow that example.

But in England, when some want to break the law, when some want the king to have the freedom to commit an act of tyranny, a conspiracy is suspected. This is what we have seen happen twice in Charles II's last years; this is what George I did without fail; this is what George III is doing again so arrogantly at this very moment; and we must avoid those examples too by taking the opposite direction.

The more a *revolutionary* law departs from strict principles of common justice, the more we need to restrict its severity to what is required by state security. In England just the action of saying mass was made into a capital offence. That law was never enforced and served only to sanction [other] arbitrary, harsh measures.

In a good legal system normal legislation remains in force for as long as it is not revoked, but revolutionary legislation must, on the contrary, stipulate how long it will be in effect, and it must be terminated if, at the end of its term, it is not renewed. In times when every papist could be seen as an enemy, the English nation could legitimately forbid them from bearing arms; but that law survived long after the point at which it had become tyrannical and ridiculous, and just a way of [encouraging] vile denunciations and shameful demands.

Revolutionary laws and measures are therefore just like any other; they are subject to the strict rules of justice. These laws are concerned with security, not violence. Thus, freedom of movement, even when it serves no useful purpose, freedom to emigrate, freedom to dispose at will of the produce one has harvested or purchased, all based on natural rights, cannot be contrasted with our passport laws, our emigration laws, our food and subsistence laws if the very survival of our society has made these laws necessary; they must therefore be examined on their own merits.

Is it not true, for example, that in the rationale upon which the fundamental principle of justice, and the advantages of an unfettered freedom of trade in produce are based, people have never examined the theory of evaluating produce in such a way as to take account of a cash value which might fall in the light of circumstances, so that a profit could still be made from storing produce even when an abundance of supply would soon ensure that its actual [retail] price would go down? The hypothesis has never been examined whereby the bulk purchase of produce, paid for by the Treasury in cash or in the form of a Treasury loan, would become so huge that it might discourage private buyers obliged to be more financially prudent, nor has a comparison ever been made between the risk involved in capping these bulk purchases with the risk involved in their proliferation and a great nation being fed by its government. If the irrational fear of monopolies or of hoarding has been completely refuted, we have still not been able to entertain the possibility of a number of great powers, united against a single nation because that nation wishes to be free, agreeing on a plan to starve that nation out, having given up all hope of victory [by other means]; the possibility of those powers even hoping to find accomplices on the inside, of those accomplices either manipulating the market or making people believe they might so as to cause terror and pillaging; the possibility finally, for the first time perhaps, of a pact to impose a famine by a method other than that of prohibitory regulation.

In short, can the power of the law in a country whose constitution has not been consolidated by a few years of custom and practice be calibrated in the same way as in a country where respect for established legislation, lasting until that legislation is reformed by a legitimate authority, has become one of the primary virtues of the citizen?

Let us not think that we can justify all extreme actions by putting the blame

‘On necessity, the excuse of tyrants.’

But let us also beware of slandering the friends of freedom by judging the laws they enacted, the measures they proposed, by rules whose full remit only holds true in times of peace.

If zeal, even in the name of the most just of causes, can sometimes be blamed for abuses, let us also remember that moderation does not always mean wisdom.

Let us make *revolutionary* laws, but only to advance the moment when we no longer need them. Let us adopt *revolutionary* measures, not to prolong the revolution or to shed more blood, but to bring the revolution to fruition and to speed up its conclusion.

The corruption of the meaning of words hints at the corruption of things in themselves.

Aristocracy means government by the wise. Old men used to govern poor and sparsely populated communities on the authority of their experience. A small number of rich people then arrogantly ruled over those communities, now transformed into opulent, well-populated cities. From that moment on, *aristocracy* was accepted rightly as a synonym for tyranny.

Old men used to offer up to the gods the wishes of their families; a priest, in the original, etymological sense of the word, was an ancient. We have come a long way from that to people who sell prophecies, dream up miracles, steal earthly goods with the promise of Heaven and murder men in the name of God.

Advice to his daughter (written in hiding March 1794)

My child, if as a baby you were sometimes comforted by my loving care, and if your heart preserves the memory of those moments, I hope you will place your trust in this advice, which is prompted by my love for you, and that it will help you to be happy.

I

Whatever the circumstances in which you read these lines, which I am writing far away from you, indifferent as to my own fate but preoccupied by yours and your mother's, remember that nothing can guarantee that those circumstances will last.

Get into the habit of working, so that you are self-sufficient and need no external help. Work will provide for your needs; and though you may become poor, you will never become dependent on others.

Even if you never need to use your skills, they will at least prevent you from worrying, bolster your courage and help you face up to the setbacks which fortune may have in store for you.

Knowing that you can do without riches, you will place less store by them. This will help protect you from the unhappiness to which men expose themselves in order to acquire wealth, or for fear of losing it.

Choose a type of work which does not occupy the hands alone, but engages the mind without straining it; something which compensates your efforts by the pleasure it gives you. Otherwise, your aversion to it, if it ever became necessary, would be almost as unbearable as dependence

itself. You might not have the courage to fall back upon it if it freed you from dependence only to hand you over to boredom, and if the price of independence was unhappiness.

II

People whose minds are active and whose necessary work does not fill the entire day have a strong need to be stimulated by new ideas and sensations. If you cannot exist alone, but need others to avoid boredom, you will find that you are necessarily subject to their random tastes and desires, which can impede you from finding ways to fill your empty moments, since these will not depend on yourself.

These ways of passing the time are easily exhausted, like your childhood toys which, after a few days, lost their ability to amuse you.

Soon, as you find new ones and as you see one method constantly giving way to another, you will find that they lose the charm of novelty, and that this novelty itself ceases to be a pleasure.

Nothing, then, is more vital for your happiness than to ensure that you have some means dependent on yourself alone of filling your empty time, staving off boredom, calming your fears or distracting you from painful thoughts.

You can do this only by acquiring some skill in the arts and crafts or in exercising your mind. Ensure that you do so while you are still young.

If you do not attain some degree of perfection in these skills, if you do not shape, stretch and strengthen your mind by methodical study, these abilities will be of no use to you; fatigue and disgust at your own mediocrity will soon outweigh your pleasure.

So devote part of your youth to securing this precious treasure for the rest of your life. Your mother's tenderness and superior reason will enable these skills to come more easily, but you must have the courage to overcome the difficulties; reluctance and temporary aversion she will not be able to prevent.

Nature offers happiness to us, at a price:

No harvest on earth comes without cultivation

Do not think that talent and ability – gifts of nature which perhaps have more to do with our original constitution than with our upbringing or the efforts of our will – are necessary to attain this means of happiness.

If nature has not blessed you with these gifts, try to find a less exciting activity whose usefulness will increase your enjoyment and conceal its dullness.

If you cannot reproduce beauty or passion on canvas, you will at least be able to reproduce insects or flowers with the precision of a naturalist.

To whatever object your tastes lead you, if you are mistaken as to your talents, you will always resort to a similar solution.

But whether nature has treated you well or badly, do not forget that your aim must be the renewed pleasure of being busy each day, of doing something which ensures your independence, protects you from boredom and prevents the vague distaste for existence and unexplained depression which afflict otherwise peaceful and successful lives. I shall not tell you to avoid the pleasures and sorrows of vanity, but ensure that it does not dominate you, that its pleasures do not become the reward of your efforts, nor the pain it causes prevent you from making an effort. Ensure that you view both pleasure and pain as an inevitable tribute which wisdom itself must pay to human weakness.

III

Habitually performing good actions and behaving with tender affection are the purest and most enduring sources of happiness.

They produce a feeling of peace, a sort of mellow pleasure which makes all pursuits, and even simple existence itself, attractive.

Get into the habit of benevolence early, but ensure that it is a benevolence enlightened by reason and guided by justice.

Do not give in order to avoid the sight of poverty or sorrow, but to console yourself by the pleasure of having relieved them.

Do not give just money; make sure you also know how to give your time, your attention and enlightenment, and the comforting affection which is often more valuable than help itself.

Your benevolence will then be independent of your fortune and not limited by it; it will become an occupation and a source of pleasure.

Learn above all to exercise it with the delicate respect for misfortune which doubles the kindness and elevates the benefactor in his own eyes. Never forget that the person who receives is, in nature, the equal of the person who gives; nor that any form of assistance which entails dependence is not a gift, but a contract, nor that any assistance which humiliates the beneficiary is an offence.

Enjoy the feelings of the people you love; but above all, enjoy your own. Think of their happiness, and your own will be your reward. Forgetting yourself in all matters of tender affection will increase your pleasure in them and decrease the pains of sensitivity. If we allow our personal motives to enter into them, we too often become dissatisfied with others. Our soul dries out, fades and even turns sour. We lose the pleasure of loving, and that of being loved becomes corrupted by worry and hidden sorrows, which are constantly accentuated by our excessive ability to hurt ourselves.

Do not restrict yourself to having a deep affection for just a few individuals; allow your heart to develop a gentle affection for people with whom events, habits, your tastes and your occupations bring you into contact.

Give the people you employ or who have pledged their services to you a share of the preferential feelings which are midway between friendship and the simple benevolence by which nature has linked us to every member of our species.

These feelings calm and refresh the soul, which at times can be tired or agitated by too vivid affections. By shielding us from too exclusive affection, they protect us from the mistakes and the harm which excess might cause. Fate can take our friends, our relations and all we hold dearest. We can be condemned to outlive them or to suffer from their indifference or their injustice. Our souls react violently to the very idea of replacing them, but while these feelings, which are to some extent secondary, do not fill the void, they do prevent us from feeling its true horror. They do not compensate, they do not even console; but they take the edge off the pain, they soothe our regrets and help time change them into the calm, habitual sadness which becomes almost pleasurable to souls which have become closed to the pleasure of happier feelings.

This gentle sensitivity, which can be a source of happiness, originates in the natural feeling which makes us share the sorrow of all sentient beings. Preserve this sentiment in all its purity and all its strength. Do not limit it to the suffering of men, but extend your humanity even to animals. Do not make any which belong to you unhappy; do not neglect their welfare; do not be insensitive to their naive and sincere gratitude; cause them no unnecessary pain. Anything of the sort would be a true injustice and an insult to nature, which would punish you by the hardness of heart which habitual cruelty must produce. Lack of foresight in animals is the only excuse for the barbarous law which condemns them to serve as food

for one another. Let us remain faithful to nature, and go no further than this excuse permits.

I shall not give you the useless advice to avoid passion and to beware of being too sensitive, but I will tell you to be sincere with yourself and not to exaggerate your sensitivity, whether for your vanity, to delude your imagination or to excite that of another.

Beware the false enthusiasm of the passions. It can never compensate either for their dangers or their drawbacks. A man may be unable to ignore his heart, but he is always able to prevent it from becoming excited, and this is the only useful and practicable advice which reason can give sensitivity.

IV

My child, one of the surest ways to ensure your happiness is to have preserved your self-respect, so that you can look back on your whole life without shame or remorse, without seeing a dishonourable act, nor a time when you have wronged someone without having made amends.

Think of the pain you have felt as a result of even minor injustices or petty mistakes, and imagine how it must feel to be the victim of serious injustices or truly shameful misconduct.

Carefully nurture the precious respect which will ensure that bad actions always make you blush and that virtuous ones make you feel humble.

A gentle and pure sentiment will then suffuse the whole of life. A consoling charm will fill the moments when your soul is unoccupied with impressions or ideas, and give way to gentle reverie, allowing memories of the past to drift slowly before it.

Even when you are distressed, your sorrows will be mitigated by the memory of a generous action or by the image of the unfortunate people whose tears you have dried.

But do not allow this feeling to be tainted with pride. Enjoy your life without comparing to that of others. It is enough for you to know that you are good, without examining whether others are as good as you.

The painful pleasures of vanity would cost you too much. They would spoil the purer pleasures with which nature rewards good actions.

If you have no reason to reproach yourself, you can be sincere with others as well as with yourself. With nothing to hide, you need have no

fear of being forced into the humiliation of lying or into making hypocritical statements, feigning principles and feelings which condemn your own conduct.

You will avoid the habitual feeling of shameful fear which is the penalty for corrupted hearts. In its place, you will feel a pure peace of mind; you will enjoy the feeling of your own dignity which is shared by all those who can acknowledge all their emotions and all their actions.

But do not despair if your conscience still rebukes you. Think instead of ways to amend or expiate your faults; ensure that any thought of them is always accompanied by the memory of the action which secured the pardon of your reproachful conscience.

Do not get into the habit of concealing the truth, but have the courage to admit your wrongs. This sense of courage will be enough to sustain you throughout your regrets and remorse; there is no need to add a painful awareness of your own weakness and the humiliation which accompanies lies.

It is not so much bad actions in themselves which threaten happiness and virtue, as the bad habits they cause in weak and corrupt souls. In a strong, frank and sensitive person, remorse inspires good actions and virtuous habits in an attempt to soothe its bitterness. They wake to find themselves surrounded by comforting thoughts which soften the pain, and find as much pleasure in repentance as in virtue.

The pleasures of a regenerated soul are, of course, less pure and less gentle than those of an innocent one, but they are then the only pleasures left in our conscience, and almost the only ones which our weak natures, and above all our defective institutions, permit us to expect.

Alas! All men have need of clemency!

V

If you want society to give you more pleasure and comfort than sorrow or bitterness, be indulgent and guard against selfishness as a poison which ruins all its pleasures.

By indulgence, I do not mean the ability, born of indifference or thoughtlessness, to pardon everything simply because you do not feel or notice anything. I mean the indulgence based on justice, on reason, on an awareness of your own weaknesses and on our happy inclination to pity men rather than condemn them.

This will enable you to find happiness in the many good but weak people who are not tiresome, though they have no shining qualities; who can distract you even if they cannot occupy you; whom you can meet with pleasure, but leave without pain; and who do not count when we view our lives as a whole, but who can pass the time and fill a few empty moments.

And those who have superior talents or nobler hearts will draw closer to you with increased confidence.

The more justified they are in the belief that they can do so without being indulged, the more they feel the need. Accustomed to judging themselves harshly, they are attracted by gentleness in others. And if they are indulgent themselves, they are less inclined to pardon a lack of indulgence in others, seeing them as proud rather than modest, pretentious rather than truly superior, and hard rather than virtuous.

Because of your duties, your main interests and the things you feel strongly about, you may not always be able to associate only with people you have chosen to have around you. And then, situations which would have cost you nothing if you had been more reasonable and more just, and had made indulgence a way of life, will require painful, daily sacrifices. Instead of a slight constraint, they will become a true source of unhappiness.

Finally, the habit of indulgence is equally useful when others need us and when we need them. It makes the good we can do them easier and more pleasurable, and the good they do us less difficult to obtain and less painful to accept. But do you want to get into the habit of indulgence? Before judging someone harshly, before becoming irritated by his defects or reacting violently against what he has just said or done, consult justice. Do not be afraid to think over your own mistakes; question your reason and listen above all to the natural goodness which you are certain to find at the bottom of your heart – for if you do not find it there, all this advice would be useless; my experience and my tenderness could do nothing for your happiness.

The egoism from which I should like to protect you is not the constant tendency to be continually and exclusively absorbed in our own interests and to sacrifice to them the interests, rights and happiness of others. That egoism is incompatible with any form of virtue, and even with any honest feeling; it would be too much to bear if I felt it necessary to protect you from such a feeling.

I am discussing the egoism which, in everyday life, makes us see everything in terms of our own health, our convenience, our tastes and our

well-being; an egoism which keeps us in some sense in the presence of ourselves, which feeds on the small sacrifices it imposes on others without feeling, and almost without knowing, their injustice; an egoism which finds whatever suits it natural and just, and whatever harms it unjust and bizarre, and which complains loudly about caprice and tyranny if someone else, in response, thinks a little about himself.

This failing diminishes benevolence and it harms and cools friendship. We become dissatisfied with others, because their self-denial can never be sufficient. We become dissatisfied with ourselves, because our vague, aimless mood develops into a constant, painful feeling which we no longer have the strength to escape.

If you want to avoid this misfortune, ensure that the feelings of equality and justice become second nature to you. Expect and demand from others only a little less than you would do for them. If you make sacrifices for them, appreciate them for what they really cost you and not according to the idea that they are sacrifices. Seek compensation for them in your reason, which will assure you that they will be reciprocated, and in your heart, which will tell you that they do not need to be.

You will find that life in society is more pleasant and, dare I say, more convenient, if you live for others. Only then do you truly live for yourself.

Condorcet's testament (written in hiding March 1794)¹

If my daughter is destined to lose everything, I ask her second mother [Mme Vernet] to heed these last wishes of an innocent and unfortunate father. Beside the usual ladylike accomplishments, I should like my daughter to learn to draw, to paint and to engrave well enough to be able to earn a living without too much difficulty or repugnance. I should like her to learn to read and speak English. It was her mother's wish, and, if necessary, she could turn for help to Lord Stanhope² or Lord Dear in England, or to Bache, Franklin's grandson, or Jefferson in America.

¹ Eliza, who played a large part in the production of the Arago edition, probably owned or saw this document, the original of which is lost. Arago described it as 'written on the flyleaf of the history of Spain'.

² Charles Stanhope, 3rd Earl of Stanhope, 1753–1816. Radical, scientist and enthusiast for the French Revolution. Proudly accepted the nickname 'the minority of one' when he found himself so in a parliamentary vote on France.

I should like her parents' mutual friends, who have shared in our misfortune, to be consulted about what is in her interests. They will tell her what help she can expect from her mother's family. When the moment of justice has come, she will find help in my writings. The advice I have written for her, and her mother's letters on friendship,³ will provide a moral education. Other writings by her mother give very useful viewpoints on the same subject.

I urge you to talk frequently to her about us, to sustain her memories of us and, when the time comes, to see that she reads our instructions in the original. Let her be brought up to love freedom and equality, and to have republican principles and virtues. Ensure that she harbours no feelings of personal vengefulness, and that she is taught to resist being moved by such sentiments and let her be told, in my name, that I never was.

If she does not lose Sophie [Mme Condorcet], I ask her to teach Eliza to know and to love her second mother [Mme Vernet]. I ask the latter to tell her of her mother's tenderness for me, and of her courage throughout this long persecution. I do not speak of my feelings towards the courageous friend who will receive this testament. By studying her heart and by putting herself in my place, she will discover them all.

³ Printed with Sophie's translation of Adam Smith's *Theory of Moral Sentiments* (1798).

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